PERIODICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.

SEP 29 1927

INFANTRY JOURNAL

Our Army—A Letter

Let Machine Guns Support the Attack

The Specialist vs. the Officer in the Reserve Corps

Lacrosse for the Infantry

Aerial Attack on an Infantry Battalion

Adjusting 37-mm. Gun and Mortar Fire

Map Problems by Radio

Public Opinion

American Heavy Tanks With British Offensive

Qualifying Non-Riflemen

The UNITED STATES
INFANTRY ASSOCIATION

OCTOBER, 1927

HERE IT IS

Just What Every Company Officer and Noncommissioned Officer of Infantry Has Long Been Wanting

An Edition of War Department Infantry Training Regulations
IN ONE VOLUME—POCKET SIZE

COMPANY TRAINING

Just Off the Press
Includes the Necessary Text of
46 TRAINING REGULATIONS

used in the daily instruction of Rifle, Machine Gun, Howitzer, Headquarters and Service Companies of the Infantry Regiment.

These same 46 Training Regulations as published by the War Department fill two Kalamazoo Binders.

NOTE THIS COMPARISON

	46 T. R. in 2 Binders	"Company Training"
Length	9 inches	7 inches
Width	6 inches	4 inches
Thickness	8 inches	7/8 inch
Weight	8 pounds	1 pound
Cost	$7.75	$1.80 in lots of 10 $2.10 single copy

United States Infantry Association
1115 17th Street **Washington, D. C.**

THE UNITED STATES INFANTRY ASSOCIATION

"The object of the Association shall be to promote the efficiency of the Infantry arm of the military service of our country by maintaining its best standards and traditions, by fostering esprit de corps, by the dissemination of professional knowledge, and by exchange of ideas as to the utilization of such knowledge with particular reference to the rôle of Infantry in modern war."—Article III of the Constitution.

OFFICERS

President—Major General Harry A. Smith

Vice-President—Brigadier General Briant H. Wells

Secretary-Treasurer—Major T. B. Catron

Additional Members of Executive Council—Colonel John J. Toffey, Colonel Alexander J. Macnab, Jr., Lieutenant Colonel Wilson B. Burtt, Lieutenant Colonel Asa L. Singleton, Major Joseph A. Atkins, and Major William A. Ganoe.

CONDITIONS OF MEMBERSHIP

All commissioned officers in good standing, or former commissioned officers of honorable record of the regular or volunteer military or naval service, including National Guard and Officers' Reserve Corps, are eligible for membership in the Association. Membership dates from the first of month following the date of election.

Annual dues, and subscription to the Infantry Journal, $3.00 a year, payable in advance.

All communications should be addressed to the Secretary, the United States Infantry Association, Infantry Building, Washington, D. C. Cable address: Infantry, Washington.

The Infantry Team—National Rifle Champions, 1927

INFANTRY JOURNAL

Vol. XXXI OCTOBER, 1927 No. 4

Our Army—A Letter

The following letter by Hon. Louis A. Cuvillier, New York City, written from the "Assembly Chamber, State of New York, Albany, August 8, 1927," was addressed to "Lieut. Col. C. B. Hodges, Acting Superintendent, United States Military Academy, West Point, N. Y.":

As a member of the Committee on Military Affairs of the New York Legislature, permit me to approve of your order restricting traffic through the West Point reservation. You were correct in the statement, "It became evident that either cadet activities or tourist activities must give way," and in your order restricting traffic, so that the future officers of the Army, which is the life insurance of the nation, could be educated in the science of war, without the arrogance of a conspicuous pleasure-seeking public interfering in their curriculum. If the American people realized what the Army has accomplished for this nation I am sure they would approve of your order.

The process of making an Army officer is a long and tedious one. There are few professions that demand a higher degree of training. Some of the officers come up from the ranks of the Regular Army, some from the National Guard, some from the United States Military Academy, and others from the Reserve Officers' Training Corps and the Citizens' Military Training Camps.

The oldest school for training officers is the United States Military Academy at West Point. It was established in 1802 as an engineering school, but it was soon taken over by the War Department as a school for preparing young men to become officers for all branches of the Regular Army. Cadetships in the academy are allotted to each district of every State and of every Territory in the Union, a certain number to the Regular Army and the National Guard. The students thus represent the whole nation. Besides a rigid training in technique, the institution sets up a moral standard for the cadets. The rank of second lieutenant in the Regular Army is granted to the student who satisfactorily completes the four-year course. The maximum authorized strength of the Corps of Cadets is 1334, plus four Filipinos.

All along the line—from the time a cadet enters the Military Academy at West Point or a man joins the Army, or a student enrolls in the Reserve Officers' Training Corps, or a civilian enters a Citizens' Military Training Camp—the opportunity is thus given for advancement. By this process of selection the best man has a chance to become the head of the Army of the United States.

Not all officers remain in the Army. This training qualifies for leadership

in other lines. During the first century of its existence 2371 of the graduates of West Point returned to civil life, most of them after some years of military experience in the Army. Of this number there were: one United States President, one President of the Confederacy, five Presidential and Vice-Presidential candidates, four members of the Cabinet, twenty-nine diplomatic representatives, twenty-four members of Congress, sixteen governors of States or Territories, forty-six presidents of universities or colleges, thirty-seven presidents of railroads and other corporations, two hundred and twenty-eight civil engineers, many teachers, clergymen, physicians, bankers and editors.

The Army has been an important factor in the development of the nation. The necessary size and efficiency of its organization have enabled it to accomplish many things which were too large for private enterprise, and for which there was no other particular Federal organization.

In 1802 the Government made the Louisiana purchase. Little was known of the land acquired except that it was vast territory of high mountains, impenetrable forests and rushing rivers, a region where hostile Indians ruled. To explore this new territory and to make the knowledge of its resources available, Capt. Meriwether Lewis and Lieut. William Clark were sent with four sergeants, twenty-three privates and a number of Indian guides on the "Lewis and Clark Expedition." These two young officers started on their journey in 1803 and spent over two years traversing this wild, uncharted country to the Pacific and back. They made surveys and maps, hewed trails and gained much information of great value to the early pioneers.

The engineers of the Army helped to project, build and operate many of the early railroads. They located, constructed and managed for a time such well-known roads as the Baltimore and Ohio; the Northern Central; the Erie; the Boston and Providence; the New York, New Haven and Hartford; and the Boston and Albany. Later on they helped to build the transcontinental roads. An Army officer, Lieut. G. W. Whistler, designed and built the best locomotive of his time.

The Army engineers surveyed and marked practically every boundary of the United States and most of the State boundaries. They helped dig the Chesapeake and Ohio Canal and the Erie Canal. They surveyed many lakes, including the Great Lakes; they built lighthouses to make navigation more safe; they increased the depth and width of the channels in all the important harbors of the country.

The development of the tractor industry was greatly stimulated by military experimentation in designing tanks and artillery tractors for use in the last war. So successfully were these employed that more adaptions are continually being found for them in agriculture and other occupations, and especially where transportation of heavy objects must be made over rough ground.

The last few years have witnessed a tremendous growth in the development of aircraft, due principally to the improvements the Army was obliged to make in competition with

other nations during the war. The Army is at present actively engaged in developing better airplanes and in mapping out air lines.

In improving methods of rapid communication, the Army has played a pioneer part. The telegraph system of the country had a very rapid growth just after the Civil War largely because of the work the Signal Corps of the Army had done in building systems for war use. At the present time the Signal Corps operates about 400 telephone systems, half of which are owned by the Government. The development of our Life Saving Service was possible largely through the cooperation of hundreds of miles of Governmental telegraph lines operated by the Signal Corps.

The Army has been one of the pioneers in developing radio. The Army has installed seventy-two radio stations to cover the territorial United States. These stations handle official messages numbering hundreds of thousands of words monthly, insuring quick service and saving much money.

Similarly, the Lighthouse Service, which is of such vital importance for ocean traffic, was built up by the Army and brought into successful operation. The Weather Bureau also was organized and operated for a time by the Army.

The Chemical Warfare Service is endeavoring to develop the discovery which has been made that some of the deadly gases used in warfare may be of value if used in small quantities to prevent and cure certain diseases.

The Army rendered aid in many disasters. In the Ohio and Mississippi floods of 1912 and 1927, its service was so efficient that thousands of letters expressing gratitude were sent to the War Department.

After the San Francisco earthquake of 1906 the Army took charge, and out of the chaotic conditions brought order. Its heroic work after the Mount Pelee disaster and after the Galveston flood of 1915 earned the grateful appreciation of thousands of the survivors.

The Army has been helpful in protecting the great tracts of land in the national parks which are constantly threatened by fire.

In other lands—Alaska, the Philippines, Hawaii, Cuba, Porto Rico and Panama—the Army has given impetus to the forces of civilization. It has built public utilities, stamped out disease; educated the children, promoted the spiritual welfare. After setting up these institutions it has protected them from aggression. Before handing over the affairs of the people to civil government it has set the wheels of self-government in motion.

Much of the work of the Army is constructive and life-saving, principally due to the efforts of a medical officer of the Army.

In Panama we see the direct effect of this work in the completion of the Panama Canal. This great and splendid piece of engineering could not have been accomplished had it not been for the application of the results of these sanitary discoveries.

People in lands not owned by the United States have recently felt the beneficent effects of Army work. After the beginning of the World War in 1914, American relief for the stricken people of Europe was largely carried out by personnel drawn from the American Army.

These data show needs that are vital for national prosperity. To meet them the nation must devote its utmost attention to the development of its youth. An upstanding manhood is the foundation of national strength, and the development of manhood is an enterprise that in which every citizen must take an active part. It is an enterprise that will succeed in proportion as the people and their Government cooperate in every possible way to achieve the great objectives of this nation as defined in the preamble of the Constitution.

I recall in 1913, when Secretary of War Stimson requested me to introduce a bill in the Legislature restricting the sale of intoxicating liquor within an area of five miles around West Point, the same people whom are now protesting against the closing of the reservation to pleasure traffic kicked against my proposed bill; however, the same was proposed and signed by Governor Dix, and this legislation saved many a young officer's future and whose worth was demonstrated in the World War. I am sure the residents and other interests in the traffic around West Point will take your suggestion and detour around to the west of the reservation, thereby overcoming this valid objection of yours for the benefit of the cadets and the American people.

National Guardsmen to West Point

GOVERNORS of States have been notified by the War Department of the annual allotment of candidates for the United States Military Academy to be selected from among enlisted men of the National Guard. The allotment is apportioned among the States, Territories and the District of Columbia according to the enlisted strength of their respective National Guard organizations. Regulations provide that the selection shall be made by the respective Governors from successful competitors in a preliminary examination, to be held between November 1 and November 15 each year. This preliminary examination is similar to the entrance examination to West Point, which selected candidates will take in March.

Each State and the District of Columbia is allotted one candidate this year except the following: Illinois, two; Massachusetts, two; New York, five; Ohio, two; Pennsylvania, three, and Texas, two.

Let Machine Guns Support the Attack

Captain Edward M. Almond, Infantry

"* * * Machine gun and howitzer platoons of support and reserve units were not used when such use seemed necessary or desirable. Machine gun units were slow in following up assault units due to lack of timely reconnaissance on the part of machine gun personnel."—From VIII Corps Area Commander's Tactical and Training Inspection, 1926. "Instruction in troop leading is needed in all arms, together with a better understanding of the employment of auxiliary weapons—especially in the tactical use of machine guns. Troops must be trained in defense against attack from the air * * *." Extract from G. O. No. 9, 1926, War Department—Notes on Training.

SOUND tactics of smaller combat units is nothing more than a simple, common-sense, well-ordered and coordinated and well-understood use of the several agencies, not the least being its weapons. If the tactics of the small units is good and the general plan is sound, the larger combat units will, other things being equal, be successful in battle.

The tactical use of any weapon must depend on its mechanical limitations. On the other hand, we should not accept the mechanical possibilities of a weapon as the sole gauge for its use in battle. These statements are true of the machine gun as well as of other weapons. In using it we must find a mean between theoretical production of fire delivery and practical use of that fire along with other weapons.

Machine gun tactics is a comprehensive subject. We shall confine this discussion to a consideration of the tactical employment of machine guns in offensive combat in mobile warfare situations. In our service we are pretty well agreed on the "why" of the machine gun in the attack; but the "how" seems to cause some trouble. If the present discussion will clear up some of the details of how to use the weapon to the best advantage it will have served its purpose.

Some hold that our system of using machine guns in attack has not been fully developed and that the relationship between machine guns supporting rifle companies and machine guns attached to rifle companies is not understood.

Our ideas on the tactical use of machine gun units are abreast of those of other leading nations, and, just as the World War developed the defensive rôle of the machine gun, so nothing short of war itself can put to the test and with certainty further develop our ideas on its use in the offensive.

From the tactical viewpoint it is more difficult to support an attack than it is to take part in the defense of a position. In the attack the relationship between units is constantly changing; new elements come into play and new positions that assaulting units gain constantly change the problem of delivering supporting fires. Keen foresight, quick decision and proximity to the changing situation have a direct bearing on the effectiveness of the fire of supporting weapons.

The pity of our machine gun offensive tactics is not that we have no workable method, but that we do not make use of the one that we have. The observer at any of our service maneuvers must be impressed with

the frequent failure of the battalion attack orders to include any mention of supporting weapons; or, if they do mention them, almost invariably to make the disposition "one machine gun platoon is attached to each assault rifle company," regardless of the terrain over which the attack is to go.

We must agree that such orders do not insure cooperation and the best use of the available supporting weapons. Why, we might well ask, does the battalion commander forget his supporting weapons? It is probably for one of two reasons. Perhaps he doesn't know how to use them, or perhaps, in the World War, he had no machine gun company to think about in his battalion. The fault certainly does not lie in having no guide for him; we have one printed as a Training Regulation. When he forgets to use his supporting weapons properly in time of peace nothing happens except a fleeting remark at the critique, but in the war this omission contributes to defeat.

When the machine gun was used offensively in the World War before the spring of 1918 it was in set-piece fire demonstrations or limited objective attacks. Then all of the details of the attack were so well known and thought out beforehand that defensive situation methods sufficed for carrying out the machine gun missions. The plans for the use of machine guns could apply only to stabilized (trench) warfare, and the problem for the supporting machine guns was one of following rules rather than applying tactical principles. There were cooperation and coordination of the highest type; but the coordination was not that which is born of expediency, quick action and the necessity for instant decision based upon a well-understood doctrine of cooperation. It was the coordination of many agencies, thought out months ahead of time, and then learned by heart by those charged with the execution of the plan.

In mobile warfare the machine gun has an important mission in all offensive operations. It must provide a close and effective support to assault rifle units whenever this seems desirable and practicable. Just how desirable such support is can well be expressed in the following quotation from the present tactical doctrine of one of the first military powers of the world today:

"The main feature of the tactics of any advance is that 'No advance in the open can be made until every automatic weapon which is capable of bringing an effective fire upon attacking troops has been located and brought under effective fire of either automatics or supporting weapons.'"

This is, in the main, the opinion of the foremost military powers of the present day. The essence of the present offensive doctrine of the French Army is: "*Le feu qui marche.* Attacks are made by bounds in order each time to establish the *base de feu* so that: (*a*) The artillery can support all the way through, and (*b*) The machine guns and 37-mm. guns can be brought forward."

The inclusion of a machine gun company in the organization of an infantry battalion is fundamentally sound. Our Field Service Regulations define the infantry battalion as ". . . the complete combat unit of infantry combat . . ." They also say: "In at-

tack the infantry advance is directed with a view to successive occupation of those features of the terrain which will constitute supporting points for a further advance."

The maximum machine gun support (*i. e.*, fire actually delivered, or machine gun units located in positions from which possible targets may be engaged) consistent with the proper maneuver of the assault rifle units is what we must have. The supporting fire of the British machine gun at Messines Ridge may be said to represent the height of perfection, but there the tactical employment of machine guns was nothing more than a demonstration of their mechanical possibilities. No one would entertain for an instant the idea of using the plans of those days to support an attack in a mobile situation. Why could the American divisions in the Meuse-Argonne offensive on September 26, 1918, not use the successive concentrations, the time schedules, the vast expenditures of ammunition and the elaborate system of signal communications of earlier days? In September, 1918, the guns were even more capable of accomplishing an assigned task than earlier. The answer lies not entirely in what the guns can do, but partly in what, with respect to other combat units, will be the results of the fire of the guns.

In the latter days of the World War we were learning the possibilities of our machine gun as a weapon with which to support an attack, but the idea of machine gun support was still limited to supporting the attack in its initial stages. The progress toward a thorough understanding of what the assault rifle companies wanted and what the supporting machine gun company (or platoon) could give was growing clearer, but it was far from the "common ground" upon which we must all stand if the machine gun is to give the rifleman what he wants, when and where he wants it.

The very fundamentals of the tactical doctrine of our Army are based upon a war of movement. When stabilization comes, if it does come, we must fall back upon the highly organized methods of machine gun support developed in the first years of the World War. But if our attacks are to be mobile, and if an attack once launched is to be advanced rapidly, we must inculcate in our combat units those simple and basic methods and principles which will insure a close and effective support of assault rifle troops.

No one will deny the soundness of supporting the attack of assault rifle troops with all available weapons. No commander entertains for an instant the idea that any battery of available artillery is to remain idle while his rifle troops are beginning an attack. Similarly, no commander should allow machine gun units of battalions in regimental or brigade reserve to remain idle during the launching of an attack; nor should an assault battalion commander ever think of any portion of his machine guns as being in reserve in the strict sense of the term. Regulations dealing with the tactical employment of machine guns do not contemplate the "idle" location of machine gun units. We should strive to have all available machine guns support the attack when practicable and when such sup-

port is necessary. The statement that a machine gun unit is in reserve should convey the idea that that unit is a potential reserve available for use with the reserve of rifle troops; it should never mean that the machine gun unit is "resting" in a position (a defiladed ravine, for instance) from which it is not ready in the minimum time to open fire on targets—predetermined, if practicable. Any effective fire delivered upon a hostile position is good insurance of a "safer passage" to assault troops.

In a unit as large as a regiment or a brigade the machine gun support may be considered from two viewpoints: that of the guns of assault battalions and that of guns of battalions in regimental or brigade reserve. The conditions under which the fire is delivered are quite different. The main differences are:

a. The guns of a reserve battalion:

(1) Usually support the attack of assault rifle units in the initial stages only, and are then held available for use with their own battalion.

(2) Usually deliver fire from rearward positions and by the indirect laying method (usually by a time schedule of firing).

(3) Usually are in good positions for preparation or harassing fire.

b. The guns of assault battalions:

(1) Usually support the attack in its initial stages from positions well forward. As the assault troops advance the guns move forward promptly when they can no longer support by firing from initial positions. The guns advance by what is known as the "leap frog" method. They can actually be of assistance to assault rifle units in the capture and occupation of the battalion objectives.

(2) Usually give the best results when fire is delivered by the direct laying method. The gunner at each gun should be able to see the friendly troops supported and the targets to be engaged.

SUPPORTING THE ATTACK

In supporting an attack there are certain things about which there must be no misunderstanding in our service. Specifically, we must agree on the following:

a. How many guns are available?

b. How shall we use the available guns?

c. What will the fire accomplish?

d. Shall the guns fire from positions imposing direct or indirect laying methods?

e. What is the relative importance of ground and air targets?

f. Shall there be any preparation fire by machine guns?

g. Shall we concentrate or divide the guns as to:

(1) Location of weapons?

(2) Firing missions?

h. Can the guns give close support after the attack is launched?

i. Do the available positions admit of overhead fire, or must there be gaps in the assault formation for executing firing missions?

All machine gun units in an infantry brigade are available for supporting the attack of that brigade. We have no divisional machine gun unit in our organization, but in a division operation even the machine guns of the division reserve should be available to participate in the initial stages of an attack, by firing in sup-

port of the main effort or perhaps protecting a flank. However, such use of the guns of a reserve battalion should not so far remove them from their battalion that they could rejoin before the latter enters the combat.

HOW SHALL WE USE THE GUNS?

There are no rules in tactics. The situation must govern the employment of all combat units, but every commander must have a skeleton idea to which he can add or from which he can subtract, according to the situation. The diagram in Figure 1, not drawn to scale, is considered basically sound and applicable to one of the recognized forms of attack in a mobile situation. (Assuming machine gun companies have two platoons each. Applicable also to three-platoon company.)

Here we find the following fundamentals applied:

a. Assault battalion commanders control their own guns.

b. A provisional machine gun battalion (two companies) delivers preparatory or supporting fire. The regimental machine gun officer of the left regiment commands the battalion.

c. To include the machine gun company of the reserve of the right regiment in the provisional machine gun battalion would very likely require a considerable movement for that company and might prevent availability to its own battalion.

d. Missions for the provisional machine gun battalion would be prescribed by the commander of either the brigade or the left regiment, usually the latter. This is especially true when the time element prohibits the brigade commander from gaining definite information. Therefore, guns are at the disposal of the regimental commander of the main effort (or left) regiment in the initial stages of the attack illustrated.

The commander should always be concerned with what the fire that he orders will accomplish. When initial fire of machine guns is masked, the guns must cease firing entirely or lift to areas in rear of initial targets. In peace-time maneuvers one frequently hears the order, ". . . and when fire is masked the guns will lift to hill so-and-so," when, as a matter of fact, the information of the enemy showed that there was nothing on hill "so-and-so," never had been and probably would not be later. The commander who issued that order just knew there was "something else" he ought to have the machine guns do, so he gave a mission that would only serve to waste ammunition and to help the enemy locate the exact positions of

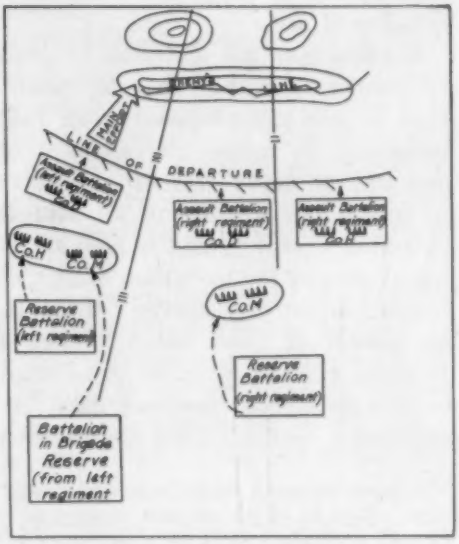


FIGURE 1--ATTACK IN OPEN WARFARE
(A brigade with regiments abreast)

his machine guns. When we know that, by lifting to back areas, we can neutralize or destroy hostile units or deny the enemy the use of important routes of approach, we should do so by all means. But we should base machine gun missions on information, not luck.

In the attack, machine guns should occupy positions, whenever practicable, which permit direct laying methods. This applies particularly to the assault battalion guns. If indirect laying is used, everything must be prearranged; there can be no variance. If our troops advance faster or slower than anticipated, they are deprived of further assistance or must have the fire stopped by some prearranged signal which may or may not be recognized in the smoke and fog of battle. Mobile warfare is so changeable and, in the lower units, transmission of orders is so often by means of the last resort (the runner) that it is useless to attempt to compare flexibility of the two methods of delivery of fire.

Machine gun fire delivered by guns of reserve battalions may be considered as fire superimposed upon that necessary to insure the advance of assault rifle units. The fire necessary to insure the advance of an assault battalion should be and is now an integral part of the battalion, except, of course, supporting artillery fire. If, by reason of their usual rearward location, reserve battalion guns must be controlled by predetermined instructions, that is all the more reason for insuring the flexibility of the assault battalion guns. Direct laying methods insure the maximum fire support in the attack.

That troops in the next war will be subject to interruption by hostile aircraft is beyond the shadow of a doubt. It will be highly desirable that they be able to march and fight without serious delay or loss from hostile air forces. Infantry combat units will have to provide their own protection against aircraft. They will have to do so on the march, in bivouac and in combat. The protection must be ever present.

Effective machine gun protection against hostile aircraft depends considerably on special equipment and ammunition that differ materially from what is necessary for ground-fire missions. This includes the special mount for high-angle fire at a rapidly moving target, special sights, tracer and armor-piercing ammunition.

In the attack, a machine gun unit, as a whole, cannot be prepared to execute at the same time a ground-fire mission and an antiaircraft mission of equal importance. For a given machine gun, one mission or the other must be primary. The machine guns charged with antiaircraft protection must always be on the alert, and the time available for taking position, laying on the target and opening fire is too short for shifting all or a part of the available machine guns from their ground missions to an air mission.*

* Tests at Kelly Field have established the following:

a. That in thirty seconds (average) from the time the airplane came into view it was directly over the target, had delivered its frontal machine gun fire, and was in the act of dropping its bombs.

b. That the duration of the antiaircraft machine gun fire was twenty-four seconds (average).

The diagram in Figure 2 illustrates the initial machine gun employment when there are important ground and air targets in an attack against an enemy who has air forces:

a. The diagram pictures strong resistance in front of the left assault company and probable harassing attacks by hostile aircraft.

b. In a two-platoon company, one machine gun platoon is available for important ground targets. If the machine gun company has three platoons, each assault company could have machine gun support, or the machine gun company (less the platoon with the antiaircraft mission) could operate as a unit for fire concentrations.

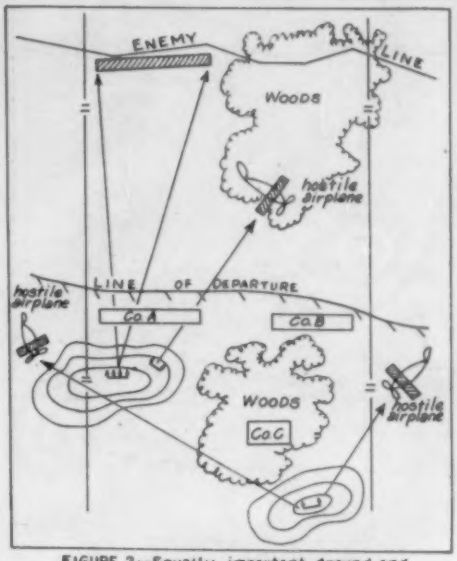


FIGURE 2--Equally important ground and air targets

SHALL THERE BE FIRES OF PREPARATION?

When preparation fire with machine guns is desired in offensive warfare, machine gun units of the reserve battalions should deliver it. Since those units are well removed from the line of departure, the enemy can usually not spot and neutralize them as easily as he can the guns of assault battalions. However, the results from machine gun fire delivered before the attack are usually not commensurate with the ammunition expended, and, because of the danger of early neutralization and destruction by hostile artillery fire, this method of employment is rarely justified. The destruction of some of the guns lessens the effective support to the assault troops and may prevent the later use of machine gun units with their own battalions.

In general, preparation fire by machine guns should be restricted to:

a. Covering the advance of assault troops to the line of departure when such advance is over open stretches of terrain and is subject to damaging fire from the enemy.

b. Compensating for a marked scarcity of supporting artillery fire.

SHALL WE CONCENTRATE OR DIVIDE GUNS?

It is usually easier to find suitable positions for machine gun companies of battalions in reserve than for those of assault battalions. The ground permitting, we may use the former as individual groups or form them into a provisional machine gun battalion. But the employment of an assault battalion machine gun company is more difficult.

The assault battalion commander is responsible for the proper tactical use of his machine gun company. When practicable, all guns should support the assault rifle units in the initial stages of the attack and should further the scheme of maneuver of the battalion. When time permits, and after having announced his tentative plan of action, the battalion com-

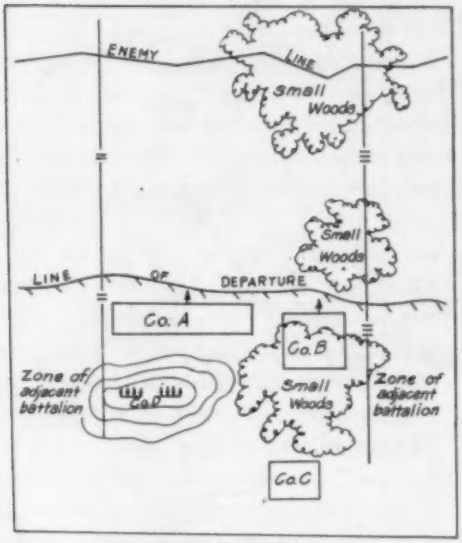


Figure 3--UNIT EMPLOYMENT
(At beginning of attack)

mander should require the machine gun company commander to make a reconnaissance and to submit recommendations for using the machine guns.

The commander of an assault battalion should use his machine gun company as a unit whenever the tactical situation and the nature of the terrain permit. Such use, at least in the initial stages of an attack, enables him to meet unforeseen emergencies and allows him to retain a powerful fire reserve which usually he may wield almost at will over any portion of his zone of action.

Training Regulations set forth the conditions that influence the use of machine guns in the attack. There is no need for quoting these regulations here, but we may as well consider the methods of using the machine guns:

a. Unity of Action.—Prompt control of fire action, rather than actual occupation of adjacent platoon locations, is the factor that determines whether or not the company is supporting the attack "as a unit" or by the "supporting platoon" method. The ability to engage the targets designated as the primary mission of the company and, if necessary, to shift a part of the company's fire—so that both the original mission and a possible new mission may be undertaken—constitute "unit" employment.

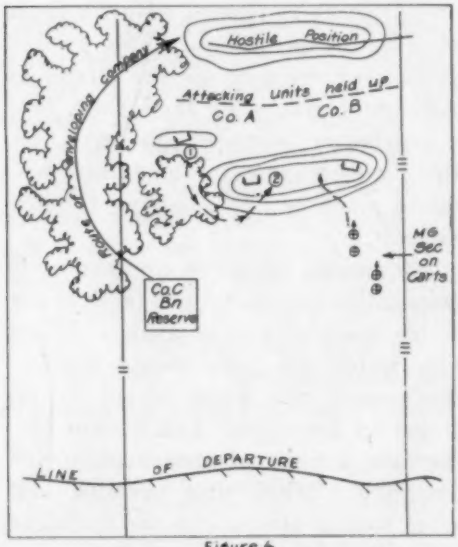


Figure 4
(Fire concentrations in later stages of the attack)

b. Support by Platoons.—(1) When the terrain or tactical situation demands that the platoons of the company perform different missions, the company commander provides the most effective support to assault rifle units by ordering a platoon to "support" each assault rifle company. This is the "supporting platoon" method. The machine gun company commander retains control of this platoon, but this does not lessen the responsibility of the platoon commanders to furnish the fire support requested by the rifle unit commanders.

(2) Machine gun platoons may be "attached" to rifle units assigned detached missions. This is the "attached platoon" method of support. In both the "supporting platoon" and the "attached platoon" methods the machine gun platoon leader maintains a contact group at the command post of the rifle unit that he supports. This contact group is composed of a corporal agent and two runners.

The diagrams in Figures 3, 4, 5 and 6 illustrate the three methods of support, both at the time of launching an attack and at some time during the advance.

The following conditions obtained in the illustration in Figure 3:

a. Uniform resistance.

b. A fire-swept zone with no cover in front of the left assault company.

c. The machine gun company, located in the best available firing position (the same general locality affording local cover for gun positions) delivers a concentrated fire in support of the left assault rifle company.

In Figure 4, the assault line is held up after the attack has been launched and the battalion reserve (Company C) is being used to envelop the hostile positions.

b. The machine gun platoons (or sections) are widely separated as a result of having been used as the "supporting platoons."

c. The main effort of the newly organized attack is supported by all available machine guns from the most suitable positions. Guns not in suitable positions should be moved as necessary if time and cover permit. For example, the section at (1) may be unable to support the new attack, while if it were moved to (2) it might be very effective.

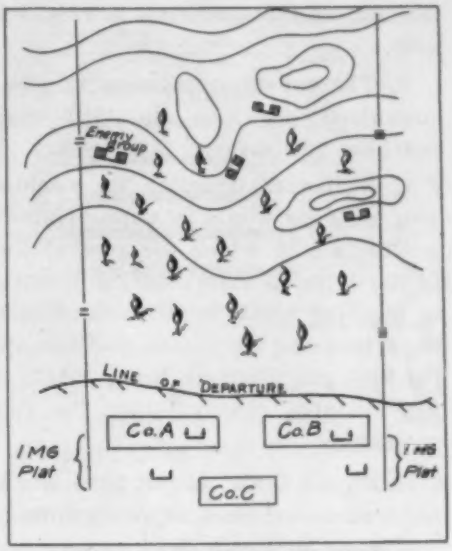


Figure 3-- SUPPORTING PLATOON METHOD
(at beginning of attack)

In Figure 5, the terrain over which the attack is to be made is rugged and

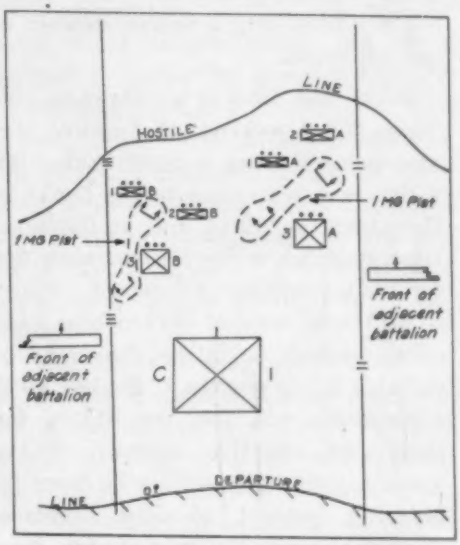


Figure 6-- SUPPORTING PLATOON METHOD
(After the attack has been launched)

broken, and observation is very limited.

b. The resistance consists of small organized positions, so that close machine gun support is necessary.

c. A like distribution of machine gun platoons would be appropriate to a situation in which the general line of the enemy is known but, on account of masking woods between the line of departure and the hostile position, the machine gun platoons, being unable to fire initially, closely follow the rifle companies.

In Figure 6, the assault battalion is more advanced than adjacent units.

b. Such a distribution of the machine guns frequently permits firing through gaps in the front line of riflemen and provides machine gun fire protection on the immediate flanks of rifle companies or platoons.

c. This method provides the most effective support when the terrain affords no elevated firing positions or when woods prevent frontal or flanking fire from rear areas in support of assault units.

After the attack is launched, the "leap frog" method of forward displacement insures a depth formation which is a protection to the flanks of the attacking units, and at the same time provides a flexible covering fire for the units moving forward. Since, at all times, some of the machine guns of an assault battalion should be in suitable firing positions, the battalion commander can use the others for close and effective support of the assault rifle units. This he does by insuring prompt forward displacement that keeps the guns close in rear of the advancing rifle units.

From localities that rifle units capture from the enemy, machine guns can often engage points of resistance from the flank and so reduce localities that are preventing the advance of their own or adjacent assault units. In such situations machine gun fire is especially valuable, and some of the guns should be advanced promptly when the rifle units are well in possession. (See Figure 6.)

When local envelopments take place within the zone of action of an assault battalion, the machine guns supporting the maneuver can usually give more effective support by firing from selected positions than by accompanying the unit that makes the envelopment. (See Figure 4.)

When an assault battalion has gained its objectives (or a reorganization has been ordered) a sufficient number of machine guns should be moved forward at once to cover effectively the front and flanks of the position to be organized for defense, or to cover the reorganization.

Thus far this discussion has dealt with supporting machine gun fire as we normally think of it; that is, firing over the heads of assault rifle troops (either by direct or indirect laying methods). We think of the guns as firing until fire is masked and then ceasing fire and moving forward to new firing positions, or lifting the fire to rear areas. We may, however, use machine guns to support assault rifle troops in any one of the following ways:

a. Long-range overhead fire.

b. Overhead fire from elevated positions close in rear of the line of departure.

c. Fire from flank.

d. Fire through gaps in the line, the machine gun positions being either on or in rear of the line of departure.

The kinds of fire in *a* and *c* above may be practically eliminated for assault battalion machine guns for the following reasons:

1. If the guns fire from long range, they are usually too far away from the front line to give close support as the attack progresses, and, four or five hundred yards before the assault units reach hostile position, the fire will be masked.

2. Firing around the flanks of an attacking unit can apply only to the outer flank of a unit. Anything else is fire through a gap in the line. Before we can fire through this gap, which to the smaller unit is a flank, we must arrange for the necessary coordination. We must know how wide the gap is, how long before it will be closed by advancing troops and how useful it is for our purpose.

Ideal machine gun positions rarely occur where we need them most. It will be the exception rather than the rule for an assault battalion commander to find his line of departure on low ground, with a high hill in rear of it, with a broad, open valley to advance over, and with an abrupt rise to the heights occupied by the enemy. This is the ideal condition for supporting the assault units by overhead machine gun fire during almost the entire advance. Will not the condition more usually be that available machine gun positions are only slightly higher than the ground to be advanced over, that the hostile targets stand at about the same level, and that, on account of the inequalities of the ground or the intervening trees,

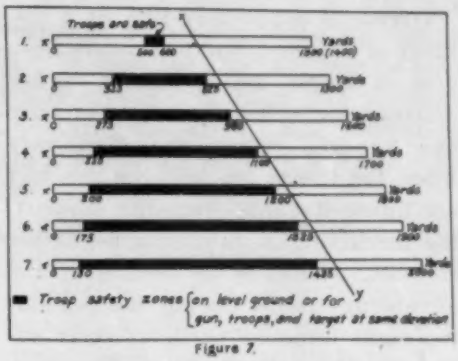


Figure 7.

the supporting machine guns, the troops supported and enemy's positions are generally on the same level? Also, is it not so that the ballistic qualities of our service ammunition are approaching the limit of a horizontal path of flight? Whatever the reason for the intense desire to flatten the trajectory of service ammunition, this certainly adds nothing to the ability of machine guns to support an attack. Both the French and the Italians contend ". . . that for infantry, the machine gun in the future will be the principal weapon in battle, and that superiority of fire will remain with those troops which can keep longest in action the greatest number of machine guns."

Now, since we are facing conditions which make overhead firing so difficult, are we not also facing the question of firing through gaps in the line or of not firing at all except perhaps to support only a small part of advance?

Consider the diagram above. It sets forth graphically some startling facts, and old facts at that. It illustrates the required level ground troop clearances for different ranges when the machine gun ammunition is the 150-grain bullet. The new 170-grain bullet only adds to our dismay.

Overhead supporting fire, at a distance of fourteen hundred yards from gun to target, which admits of fire delivery for a troop advance of only one hundred yards, and then only when the troops are between five and six hundred yards from the supporting machine gun, is almost negligible support. What is to become of the advancing troops during the remaining eight hundred yards of their advance? If we place our machine guns 500 yards in rear of our line of departure, the enemy's line being nine hundred yards beyond the line of departure, what is the percentage of support for the distance to be traversed? The answer is eleven per cent. Furthermore, this calculation takes into account only the leading elements of attack unit. What is to become of the support sections of assault platoons and the support platoons of assault companies? We use a depth formation in our attacks and we teach support elements to advance in accordance with the progress of their assault elements. If we can carry this out, then will it not be likely that, on terrain that is level or nearly so, the location or movement of local reserves will make the problem of overhead fire all the more difficult?

It is true, of course, that the farther the line of departure is from the enemy's position, the greater will be the distance over which the machine guns can support. The line of departure, however, is a line which must satisfy a number of conditions besides that of facilitating supporting machine gun fire.

A further reference to Figure 7 and the line x-y will also show that for terrain which is approximately level any one of the blocked lines (1 to 7, inclusive,) leaves the assault rifle troops to advance under their own fire power (or supporting artillery fire) for the last six or seven hundred yards of the distance to the enemy's position. Does this not force us seriously to consider firing through gaps in the line; not gaps for single guns, but wide gaps for machine gun platoons, or even companies?

We often hear the remark that firing through gaps in the line is impracticable. Have we ever given it a fair trial? Is not such a statement a mere surmise and not the result of trial and experiment? Of course, there will be difficulty in maintaining the gap—many things in war are difficult until we learn how to do them. We must learn to make use of the gap; we must find a way to support with lanes of fire when necessary; we must not be satisfied with an excuse for not doing so.

It is better to provide a gap (between assault companies for example), and in that manner be able to support three hundred yards of the rifleman's advance, than it is to use overhead fire and support that same advance for only one hundred yards. Our own Training Regulations and those of all other first-rate military powers contemplate the use of gaps, where necessary, through which the machine guns may support the attack for a longer period than would be possible by overhead fire.

The limitations of this discussion do not permit elaboration of the possibilities of firing through gaps in an attack formation. The possibilities

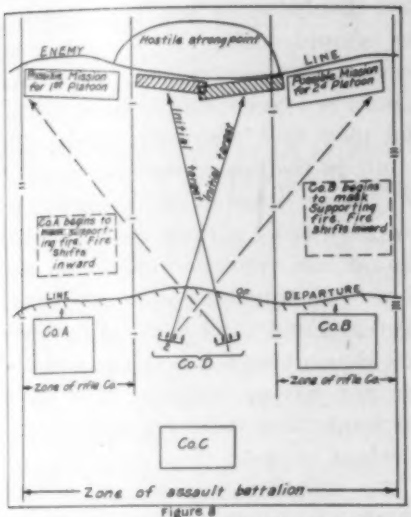


Figure 8

(Terrain generally level and providing neither elevated firing positions nor positions for observation of targets from rear area.)

are many, and the gap can be made effective if the commander, in his attack order, will specifically provide for it. The gap should be large rather than small. For obvious reasons, a large gap near the center, or on the interior flank, of a battalion is far preferable to numerous small gaps. Definite orders by the battalion commander will insure a common understanding between riflemen and machine gunners.

The diagram in Figure 8 illustrates the possibilities of firing through specially provided intervals rather than supporting an attack by overhead fire under unfavorable conditions.

It is to be noted that

a. A single wide gap usually admits of machine gun fire for a longer period than do numerous small gaps which become masked by advancing riflemen. Crossing the fire of the platoons provides the maximum support.

b. When a narrow front will not admit of gaps, or machine gun fire is not desired, the company may be held in reserve, the machine gun platoons following the assault rifle companies in a formation similar to that of the riflemen.

The battalion commander who orders an attack on a four-platoon front (*i. e.*, with two assault rifle companies), knowing that such a formation forces his supporting machine guns to use overhead fire under unfavorable conditions, would do much better to diminish the actual front occupied by the riflemen and specifically provide a gap somewhat similar to that shown in Figure 8. In general, the protection from supporting machine guns is adequate only when they dominate the entire breadth of the battalion's zone of action and those adjacent areas from which hostile opposition to the attacking riflemen may develop.

Having been assigned a zone of action, the battalion commander must carefully estimate the situation and base his formation for the attack upon the enemy's organization of the objective. Where are the suitable approach ways for maneuvering units? Where are strong points? Where is the opposition most likely to be? Once these important factors are determined, the battle is half won, because it is on the enemy's strength that he should concentrate and keep supporting fire until his maneuver units (riflemen) arrive within striking distance. How may this be done on level terrain? The question arises: "Shall one large or several small firing lanes be left open?" The terrain and enemy's fire have some influence on

the solution of the problem. Open terrain should be assigned to the supporting machine guns and covered terrain to the rifle units. The greatest scope of action for several machine gun platoons will result from one large gap, so selected as to permit the maximum fire support. But the battalion commander must provide for the gap.

It would appear, then, that we have a workable scheme for the tactical use of our machine guns in offensive warfare. Our present practice is based upon the experience of all the nations that participated in the last war.

It is true that the next war may change or further develop new ideas and methods. What war in the history of mankind has not done that? As far as we can now see into the future, our system is a good one if all concerned understand it; and no system can be effective unless this is so. We should make our system work; we should make the machine guns support our assault rifle units. We should not be constantly hampered by the idea that aggressive action will result in the loss of some of the guns. Of course, some of the guns will be lost, but do we not lose men, too? We should not condone timidity in machine gun employment in our combat exercises and maneuvers. Experience has shown that for every good reason for not having machine guns where we want them there are always many specious excuses.

We should follow the old proverb which runs: "Be not the first to discard the old nor the last to take on the new."

There are many things to be learned about modern war, but let us not forget that we know something already and that we must make that something work.

Japanese Officers to Attend Army Schools

IN accordance with an agreement between the United States and the Japanese Governments for the mutual exchange, for periods of six months' training of Army officers who are studying the language of the other country, arrangements have been made for the following officers of the Imperial Japanese Army to take courses at the Special Service Schools of the War Department during the scholastic year commencing next month:

Major Yuzaburo Hata (having been on duty with the Railroad Regiment of the Coast Artillery Corps at Fort Eustis, Virginia) is authorized to attend the Field Artillery School at Fort Sill, Oklahoma.

Major Toshijiro Takeuchi (having been on duty with the Second Division Trains at Fort Sam Houston, Texas) is authorized to attend the Tank School at Camp Meade, Maryland.

The Specialist Versus the Well Rounded Officer in the Reserve Corps

A Conception That Should Influence the Maintenance, Training and Utilization of the Combat Branches of the Reserve Corps

Colonel Henry G. Beyer, 303d Infantry

IN writing this article, the writer does not pretend to be an authority on this subject. He does aim to point out certain inherent characteristics in the Reserve Corps and to show their bearing on the present and future training of the Reserve Corps and its use in an emergency. The facts are fresh in the minds of all, and if it is possible to draw certain conclusions from them, these conclusions may help to clarify the situation. The whole subject shows at present too many divergent views and opinions.

Congress passed a law creating the Reserve Corps. The passage of this law imposed on the War Department duties which may naturally be divided into three parts:

1. Creation and organization of the Reserve Corps.

2. Maintenance and training of the Reserve Corps.

3. Utilization of Reserve Corps in time of emergency.

The first of these duties, the creation and organization of the Reserve Corps, has been substantially achieved. A brief comment on its creation may be helpful in understanding what the present Reserve Corps is. So far as combat branches go, the law contemplated commissioning all veterans, and provided that not more than fifteen days could or would be required from any officer in any one year, except in a national emergency. During the initial phase of creating the Reserve Corps all available officers were solicited. They were made familiar with the provisions of the law. Only four and one-tenth per cent of their time for a year could be required. Only an officer's eligibility, not his ability or willingness to devote time or money to his training and equipment, affected the decision as to whether or not he should receive a commission. The Reserve Corps had to be and was created.

When the Reserve Corps was once organized, the next problem was to maintain and train it. That is the job today, and a new set of ideas must govern.

We cannot intelligently determine the principles of training for the Reserve Corps without knowing its characteristics. As the law contemplated, each veteran officer was tendered a commission, and all who could be induced to accept are now commissioned. Perfectly natural, in the process of creating the Reserves, where no thought could be or was given to whether or not an officer would respond to the requirements of peacetime training, where his taste was not considered, his available time was

pushed into the background, and he was asked merely to sign on the dotted line and help by his presence in the creation of the Corps. Perfectly natural, large numbers of officers were secured who never expected to function in peace time, and who honestly and honorably so stated. Still they were accepted, and properly so. They were efficient, and they or their successors will again be efficient. But their efficiency and usefulness for an emergency depend on specialization, and this specialization fits only the Reserve Corps. The well-rounded officer in the Regular Army is a necessity. In point of hours of duty he is one hundred per cent officer, while the Reservist is not more than four per cent officer, both fixed by law. The regular must know all branches practically. The conception of "a well-rounded officer" for a four per cent time officer is contrary to reason. The limit imposed by law is only one of many limitations. Business conditions, family considerations, financial obligations, taste and recreation, each a mandate in itself, impose further restrictions. The Reserve officer never was and never can be a well-rounded officer.

How, out of this peculiar structure called "The Reserve Corps," can efficiency be expected or produced? The answer is found in what happened in the last war. Reserve officers were commissioned because of their World War performance. The great questions are, "What did they do in the late war? and, What will they do in the next one?"

During their World War service hardly one of the temporary officers became a well-rounded officer. No three months' camp, no year of miscellaneous service, could produce a well-rounded officer. The performance of the temporary officer in the last war is familiar to us all. Excellent adjutants who knew nothing about drill, outstanding officers in combat who were poor administrators, efficient supply officers who could not handle a platoon, abounded. The production of well-rounded officers in the late war was almost zero. The efficiency of every unit officered by temporary officers depended entirely on the correct utilization of individual abilities. Our World War army was an army of specialists who learned to handle their assignments efficiently. Thus we find at the outset that almost all Reserve officers who are veterans of the World War entered the Reserve Corps proficient in some war-time specialty. Familiar remarks of Reserve officers are, "I was regimental bayonet officer"; "I was regularly assigned to trench raiding during combat"; "I spent most of the war as range officer"; "I was regimental personnel officer and had not an hour of drill after leaving training camp." These remarks show that the officers knew their specialties, but, judged by present standards, would be found wanting, for they are not well-rounded officers. We have, then, a large group of Reserve officers labeled and ticketed "infantry," "artillery," and so on, who by war experience and civilian pursuits are specialists, not well-rounded officers. It is clear that their civilian activities occupy nearly one hundred per cent of their time. The present question of properly maintaining and training the Reserve Corps cannot ig-

nore this inherent nature of the Reservist.

It is not only in the late war that Reserve officers were all specialists. In their civilian occupations they are specialists: file clerks, treasurers, salesmen or some other. Efficiency in business can be secured in no other way. Thus, Reserve officers in their combat training during the World War and their business activities of the present day were and are efficient specialists. The only means that we have for combatting this specialist tendency is to use four per cent of an officer's time for training, and it is well known that a relatively small fraction of Reserve officers can afford even this. Thus it appears that the present conception of training Reserve officers to make them well-rounded officers is not consistent with the actual conditions in the World War, does not take into account variations of aptitude and individuality of officers, and is unlikely to be of any importance in the next war. The next war, like the recent one, will be fought by specialists. The necessity to be efficient will compel such procedure. Ford's great factory depends on piece work. Quantity production is impossible without specialists, quickly produced and efficient in their work. The next war will differ from the past one in that it will be more complicated. The need for specialists will be greater. Regiments will again be put together out of specialists, and they will operate efficiently.

Naturally, a commanding officer of a Reserve regiment will consider highly trained specialists most valuable. He has to produce a regiment. His dominant thought is, "Will my regiment be efficient?" He looks around for the key specialists. A former regimental bayonet officer, a skilled trench raider, a proficient range officer, an experienced personnel officer, would all be more than welcome in an emergency. The fact that they were deficient in many basic subjects would not detract materially from their emergency value. Present plans for training should be adapted to this condition.

Active training for four per cent of an officer's time is totally inadequate to change the situation. We might as well recognize it and adopt means of training suitable to the situation. In the particular regiment which I have commanded for four years, I do not know of a single Reserve officer who would not be very valuable in an emergency. They are all specialists, not only by war-time experience, but by civilian occupations. They vary as to intelligence, type and ability. My intelligence officers and supply officers do not look alike or think alike. My officers who never attend camp are often the very ones who will be most relied on in an emergency, for attendance at camp is not a measure of an officer's military ability, but rather a test of his ability to separate himself four per cent of his time from his civilian duties. As a result of a sound use of specialists, many Reserve regiments have a high potential efficiency; an efficiency that they would not have if they had to depend on well-rounded officers.

The maintenance and training of the Reserve are now undergoing scrutiny. The specialist nature of Reserve officers should be appreciated. Their individual assignments and aptitudes

should be recognized and classified. Their peace-time training should improve them as specialists, not as well-rounded officers. This course is all the more logical and suitable when it is remembered that the individual tastes of officers largely govern their military activities. Training would then be running with the current, and not against it. The Reserve Corps maintenance and training should be put on a basis which recognizes fully and takes full advantage of the specialist characteristics of the Reserve officers.

Now we come to the third great duty of the War Department, the utilization of the Reserve Corps for a national emergency. It is obvious that the defects that existed in the system at its creation and in its peace-time training should be corrected when an emergency arises, if possible. What can be done along this line? Then, Reserve officers, instead of being four per cent officers by law, again become one hundred per cent officers, and there a very vast difference exists. Not only will they become one hundred per cent officers, but patriotism and duty will supplement this. These civilians can then be handled as officers. Their paramount consideration will be their duty as officers. Then, and then only, is it possible to give training which at present neither the law nor the Reserve officer's own taste or situation permit.

Consider for a moment the conditions that obtain at the beginning of a national mobilization. The country is actually entering war. Probably months previous to the actual declaration, war clouds had been gathering and every business man has had months of warning of the impending catastrophe. His business arrangements will have been settled, perhaps unsatisfactorily, by the emergency itself. If the emergency comes too swiftly for such warning, it will, from its very nature, call for every sacrifice. In either case there will exist no reason why any Reserve officer should not be called to active duty.

In the natural sequence of events the Regular Army and the National Guard will mobilize, equip and go to the front. The Reserve Corps fighting units cannot be mobilized and utilized immediately after the declaration of an emergency. It seems probable that four or five months must elapse before Reserve units can be supplied with men and equipment. Here exists a period for training the Reserve officer. On the correct utilization of this training period depends the war-time efficiency of the Reserve Corps.

How shall this training go on? Even with the Reserve officers devoting one hundred per cent of their time and thought to their military duties, it is not possible in time of an emergency to make them into well-rounded officers. For an organization to operate efficiently, it must have skilled officers. Skilled specialists can be quickly produced from officers who have the appropriate aptitudes. The idea of producing a well-rounded officer should be abandoned for this period. The time element, so important in war, will absolutely prevent it.

The following is given as a practical and feasible plan for the mobilization and training of an infantry regimental cadre during a period of four months following the declaration of a national emergency. It contem-

ulates the creation of specialists in certain key positions within the regiment. It provides for most officers the general education which it is impossible to give them in peace time. The training load is not too great. No factors of transportation or the time element interfere with it. In fact, so far as time goes, it will hasten the mobilization of the Reserves by at least two months. By following it faithfully, the defects in the present training system will be remedied. All training throughout the Reserve Corps would be absolutely new and absolutely uniform. Obvious modifications of this plan for an infantry regiment would apply to other branches of the service.

My plan involves training at Benning approximately fifteen hundred officers selected according to their assignments from about one hundred infantry regiments that now comprise the infantry of the Reserve Corps. This part of the plan, while absolutely vital, is the one that may cause objection because of the burden placed upon and the capacity of Benning. To my mind, capacity of Benning for training officers has nothing to do with the matter. The nature of the emergency, the size of the army, the nature of the training, are all factors that obviously cannot be determined by the size of Benning. The size and training of the Army should determine the amount of training required at Benning, and not the size of Benning determine the size and training requirement of the Army. In this connection, I believe that the burden of training thus placed on Benning will be substantially all that the entire infantry of the Reserves will require initially in the line of officers' schools, and that it will be ultimately an economy of time and effort for the War Department to train these selected officers in the manner outlined. The only other requirements for my plan of training are complete sets of manuals appropriate to the grade of each officer for prompt distribution to all infantry regiments on M day; and for each infantry regiment in the Reserve Corps the following equipment:

1. Complete set of equipment for three typical infantry squads (one squad equipment for the training of the officers of each battalion).

2. Complete equipment for one machine-gun section.

The plan has three main parts:

1. Calling officers of each regiment to active duty on M day or as soon thereafter as practicable.

2. Establishing regimental headquarters and assembling entire regimental cadre at a point within the regimental territorial area.

3. Selecting a group of the most important specialist officers from the regiment to receive a three months' intensive training at one point in the country. For infantry, this point is Benning.

I believe that it is necessary and practicable to call infantry Reserve officers to active duty on M day. M day is not apt to come suddenly and without warning. Ordinarily, Reserve officers would have sufficient warning to adjust business interests long before M day. If M day should come so suddenly as to prevent this, it would be because of a crisis, and delay would be unjustified from the viewpoint of the interests of the country.

There are also good reasons for assembling the regimental cadre at the most suitable place in the regimental area. If the regimental cadres are mobilized, they can immediately begin with training manuals and other available means to train themselves in the fundamentals. Usually, at the outbreak of war, training manuals are scarce. The War Department should maintain an adequate supply of such manuals ready for distribution to each individual officer in the regimental cadres. The location of the regimental cadre should be such as to afford a maximum of training in the regimental area. This location should be easy to secure, as it involves only quarters for one hundred officers on the outskirts of a city, where the terrain is suitable for training. All infantry regiments can secure such a location within or near their regimental areas. The theory of this cadre mobilization is based on the War Department's present plan of a "unit" camp for Reserve regiments. During this training period for the cadre, the officers could get a large amount of valuable training by visiting and assisting, unofficially, neighboring organizations of Regular Army and National Guard which were hastily mobilizing. The principal groups of officers which could thus receive valuable training and give to mobilizing units valuable assistance are: supply officers, medical officers, adjutants and executive officers. These officers could go under informal arrangements to help in the mobilization work, take over the sick, and generally clean up the camp; and the Reserve officers would at the same time be getting most valuable experience with Army administrative work. It should be remembered that the regimental cadre at this time will be functioning without fifteen officers who are selected and disposed of according to the paragraph which follows.

The last portion of my training scheme involves the selection of fifteen officers from the regiment and sending them immediately after M day to Benning. Twenty-seven divisions, containing one hundred and eight infantry regiments now make up the Reserve Corps. Therefore, there are one hundred and eight colonels, four times this many lieutenant colonels, and so on. For purposes of simplicity, I shall consider that there are one hundred colonels of infantry regiments in the Reserve Corps, and multiples of one hundred of other officers. The following might well be selected for training at Benning:

Colonels	100
Lieutenant colonels (battalion commanders)	300
Majors (machine gun officers)	100
Battalion and regimental 2's	400
Battalion and regimental 3's	400
Captains, howitzer company	100
Captains, headquarters company	100
Total	1500

These officers should be ordered immediately to Benning for a three months' course, leaving the regimental cadre under command of the lieutenant colonel, and the battalions under the three majors. These executive officers are amply able to attend to the functioning of the regimental cadre during its period of basic training. Not one of the officers who are to go to Benning immediately is needed for the basic training of the cadre of officers during the first four months of mobilization.

The courses at Benning should be divided into seven courses for the teaching of the 1500 officers mentioned above. This division into only seven courses will greatly lighten the training burden there. The courses should be as follows:

Course No. 1—Regimental commanders 100
(to include a proper amount of brigade work.)
Course No. 2—Battalion commanders. 300
(to include a proper amount of regimental work.)
Course No. 3—Machine gun officers... 100
Course No. 4—Regimental and battalion 2's..... 400
(with slight variation between regimental and battalion courses.)
Course No. 5—Regimental and battalion 3's..... 400
(with slight variations between regimental and battalion courses.)
Course No. 6—Headquarters company commanders 100
Course No. 7—Howitzer company commanders 100

The courses are for the purpose of making each officer proficient in his specialty. They should not aim to make well-rounded officers.

On completion of the course at Benning, the officers should return to their regiments and rejoin their cadres, which during this three months' course have acquired at their home stations all the basic training necessary as a foundation for advanced military knowledge.

On M plus four months, by taking the steps indicated above, the following condition would prevail throughout the entire infantry of the Reserve Corps. All regimental commanders would have been trained in the same school and the same tactics; they would all speak the same language; their training would be absolutely modern and uniform. They would have rejoined and would be in command of their cadre regiments. The adjutants would be similarly trained. All officers would have had basic training, and the R 2's and R 3's would have received the finest possible training at Benning in their respective assignments. The three battalion commanders and staff would have been taught in the same school as the regimental commanders, and all of their officers would be basically trained. The regimental machine gun officer, the captain of the howitzer company and the captain of the headquarters company would assist in the training of battalion headquarters companies. A cadre so trained would be in a position to receive draft men and continue their training and prepare them for the field practically without assistance. Furthermore, this training would shorten the training period for Reserve units by at least two months. Finally, by this system of training not one minute of time would be lost, and the time element is of vital importance in war.

There are certain general conditions which make advisable an adequate scheme of training such as the above. Reserve officers who accepted assignment in peace time are liable to be thrust into positions of great responsibility. They are constantly growing older and rustier, and the tactics and technique of infantry are constantly changing. From considerations of efficiency, a scheme of training such as I have outlined is vital. From considerations of abstract justice, every Reserve officer is entitled to the best chance to train which the Government can give him. Everyone admits that Reserve officers need training. Everyone agrees that, owing to supply conditions, there is a period of four months during which it is now pro-

posed that Reserve units shall remain idle.

I understand now that the War Department plans to select certain Reserve officers who are qualified as teachers and send them to Benning, where they are to receive a two months' course. They will then constitute a body of teachers which will later be split among the nine corps areas. In each corps area there will be established schools for the training of Reserve officers. The expectation is that under this plan unit commanders can order as many of their officers and enlisted specialists as they desire to such schools. In comparing the War Department scheme with the one I have outlined I feel that the latter is superior in the following principal respects: It involves the actual training at Benning in one class of the principal key officers of all regiments; it assures greater uniformity among the regiments of the Reserve Corps; the period of instruction can be prolonged from two months to three months; and, finally, Benning instruction given at first hand to the key officers of a regiment is infinitely to be preferred to second-hand instruction given after a two months' course at Benning by Reserve officers themselves. The plan utilizes the specialist characteristics of Reserve officers and will make the combat infantry of the Reserve Corps promptly efficient.

Let us sum up. The Reserve Corps was organized under the prime necessity of obtaining veteran officers legally eligible. Under this main impulse, officers were admitted to the Reserve Corps who had no thought of peace-time training. In trying to apply familiar methods to the peace-time functioning and training of the Reserve Corps, difficulties have arisen which are not thoroughly understood. Reserve officers are considered as individuals and not as small parts of a big machine. The efficiency of a single officer may be low when judged as a well-rounded officer, but efficiency of a single officer is no indication of the efficiency of his regiment. Trained specialists who can be produced quickly must be relied on to create regiments in the future as in the past. The efficiency of the regiment as a whole should be the goal, and not the individual efficiency of each officer. The viewpoint of regimental efficiency rather than individual efficiency is the only logical idea applicable to Reserve Corps units. All Reserve officers understand specialist efficiency and all business is conducted on this theory. The development of specialists in peace time and their intensive development on mobilization will solve all difficulties which are being experienced in peace-time training and functioning of the Reserve Corps.

While the standardization of individual officers is impossible in the small time allotted for their training, the standardization of regiments is entirely practicable and should be accomplished. To function efficiently, these regiments must be filled with trained specialists each capable of doing his own particular work well. No other method will produce quickly efficient units from the Reserve Corps.

Lacrosse for the Infantry

Lieutenant H. McD. Monroe,* Infantry

"WHEN lacrosse is given its chance at widespread popularity, it will register with a national mop-up,"—Grantland Rice in New York Herald-Tribune, January 18, 1927.

Such a statment from one of America's most authoritative sport writers leads to the questions: What is this game lacrosse? Why does it merit such commendation? Is the Infantry missing a chance to call, "Follow me"? If adopted by the Marines (I am told teams have been organized at Quantico), we may rest assured that lacrosse will be given a "chance at widespread popularity." The plea of this article is to get the Infantry in the advance guard for the "national mop-up."

During the past three years it has been my good fortune to meet many of the leading lacrosse enthusiasts in the United States, in addition to a few Canadian leaders, to observe many lacrosse teams in competition and to watch the influence and effect of lacrosse in the development of cadets at West Point. I am convinced that lacrosse is pre-eminent among sports for the training and conditioning of infantrymen.

Lacrosse is a game inherited from the American Indians. The French colonists labeled the game *la crosse* because its chief implement, the stick, resembled a bishop's crozier. For the Indians lacrosse was a war maneuver; in their interest war alone surpassed it. With whole tribes pitted against each other and goal posts miles apart, the contests, often lasting a week, were gruelling tests of courage and endurance. So important were these maneuvers considered that the medicine men acted as umpires. The squaws used switches to spur on all faltering or tiring players.

As played by the Indians, lacrosse developed stamina, skill in handling weapons, coordination of brain and muscle, speed and elusiveness, judgment and courage.

The implements originally employed in lacrosse games were simple. The ball used was a leather cover stuffed with feathers; it weighed about eight ounces and measured approximately four inches in diameter. The sticks were made of light, hard wood, with a lacing of thongs at the curved end. The ball was carried or propelled along the ground or through the air by means of the netted stick. The goal was a single post, which a player had to hit with the ball to make a score. Later two posts were used and then a goal was scored by driving the ball between them.

It may be of passing interest to recall how Chief Pontiac with his Ottawa Indians made use of a lacrosse game to capture Fort Michilimackinac from the British. For the entertainment of the garrison, the Indians pretended to play a game just outside the fort. During the play one of the Indians threw a ball over the palisade.

*Lieut. Monroe has been officer in charge of lacrosse at the U. S. M. A. during the past two years.

Lacrosse Goal Keeper in His Goal

All the Indians immediately rushed in after it. Once inside the enclosure, the players became warriors, quickly overpowered the few soldiers who had remained within the walls, closed the gates and were masters of the fort.

From the Indian war maneuver lacrosse slowly evolved unto its present form. Adopted as the national game in Canada, it spread to Great Britain, Ireland, Australia and the United States. It has been an organized game among colleges in the United States since 1881; in fact, the first intercollegiate contest in America was a game of lacrosse. Today in the United States forty-six colleges, universities or clubs and twenty-four secondary schools have lacrosse teams. The game has expanded gradually down the eastern seaboard so that there are teams playing from Canada to Florida east of the Appalachian Mountains. Lacrosse is now rivaling baseball for position as the major spring sport in eastern colleges; indeed, several colleges have dropped baseball in order to take up lacrosse. Such action, in face of the traditional love of alumni for baseball and in spite of the big leagues' dim lure felt by some college baseball players, is ample proof that lacrosse possesses great merit.

Lacrosse is played on a rectangular field somewhat larger than a football gridiron. In length the field may vary from a minimum of one hundred and fifty yards to a maximum of one hundred and eighty yards; in width, from seventy to eighty-five yards. Boundaries of the field are marked with white lines, and an off-side line is marked through the center of the field, perpendicular to the side lines. A circle, twenty feet in diameter, is marked about the center point of the field.

Two goals are placed one hundred and ten yards apart on the unmarked longitudinal center line of the field; thus there is from twenty to thirty-five yards of playing field behind each goal. About each goal a rectangle, eighteen by twelve feet, called the "goal crease," is marked. The goal consists of an iron framework, making a front opening six feet square and a net of pyramidal shape fastened to the framework so that the apex of the pyramid is on the ground seven feet back of the center of the line joining the two uprights.

The uniform and equipment of the individual player are illustrated in the picture on this page. The shoes have canvas uppers and rubber soles with rubber cleats. Stockings are the same as used for football and basketball. Trunks or flappers are similar to those used on the track, though some, like basketball flappers,

have padding about the hips. Protective pads for shoulders and elbows are worn under the jersey or sewed into a special jersey. Leather gloves, reinforced and padded, furnish protection for wrists and hands. Padded caps or leather helmets protect the head. The ball is India-rubber sponge, not less than seven and three-fourths nor more than eight inches in circumference, and four and one-half to five ounces in weight.

The stick is a light staff of hickory wood with the top bent to form a hook, from the tip of which a thong is drawn and made fast to the shaft. The triangle thus formed is covered with a network of gut or rawhide, loose enough to hold the ball, but not to form a bag. The stick may be of any length to suit the player, but must not exceed one foot in width. The use of metal in the manufacture or repair of the stick is prohibited.

To equip two teams (twenty-four individuals) with full lacrosse equipment would cost approximately eight hundred dollars.

*24 sticks	$144.00
2 goals	120.00
1 doz. balls	5.40
24 pairs shoes	78.00
24 pairs gloves	140.40
24 caps	54.00
24 padded jerseys	176.40
24 supporters	6.70
24 pairs socks	18.00
24 pairs flappers	32.40
6 rule books	1.50
Total	$776.80

The teams, each composed of twelve players, line up as in basketball, from goal to goal.

The game is played in halves, usually of thirty minutes each. If, at the completion of sixty minutes' play, the score is tie, the teams rest for five minutes and then play an extra ten-minute period. If the score remains a tie, the game is declared a tie.

The play starts in a way that corresponds to the face-off in hockey or the tip-off in basketball. The referee places the ball between and touching the reverse surfaces of the sticks of the opposing centers. The wooden backs of the sticks rest on the ground, but the ball is held above the ground by the netting. The left side of each center must be toward the goal he is attacking; consequently, the two centers are facing each other. When both sides are ready the referee calls, "Play" or blows his whistle. The centers then draw their sticks apart, each player endeavoring to send the ball toward one of his team-mates. Whenever the ball is thus "faced," no player is allowed within ten feet of those facing the ball until it is in play. (The twenty-foot circle marked about the center of the field simplifies the enforcement of this rule.)

The player who secures the ball attempts to carry it towards the opponent's goal. He may carry the ball with his stick or throw to another player of his side; or, if the ball is on the ground, he may kick it or hit it with his stick. The players of one

*Mr. P. J. Lally of Cornwall, Ontario, the leading manufacturer of lacrosse sticks, has a tempting offer for those regiments which intend to take up lacrosse. Those interested should communicate with him.

Carrying the Ball Toward the Enemy's Goal

side thus cooperate to advance the ball until one of them shoots a goal, or until the opposing side secures possession of the ball and, in turn, starts advancing it toward the other goal. The ball must not be touched with the hand by any player, save the goalkeeper, who, when within his goal crease, may stop or deflect the ball with his hands. Players of the attacking side are not permitted to go within the goal crease nor to interfere with the goalkeeper while he is within the crease. Any goal made while an attacking player is within the crease or while he is interfering with the goalkeeper when the latter is within the crease, is not counted.

The offside rule, which provides that at least three players (in addition to the goalkeeper), must always be kept on defense and three on offense, makes it impossible for a team to collect its players at one goal or the other. Mass action would slow up the play and destroy the open passing, which is a spectacular feature.

The object of the attacking players is to advance the ball into the opponents' territory and score goals. This is accomplished by intensive and coordinated team play. Often the men who score goals are less responsible for these scores than other players who have passed them the ball.

Players on defense try to keep their opponents away from the goal and to get control of the ball themselves. They may intercept a pass, use their sticks to knock the ball from an opponent's stick, or body check. The body check corresponds to tackling in football; a player may check an opponent who actually has, or is within reach of the ball. The checker must keep at least one foot on the ground and must not fall or throw his body in such a way as to strike his opponent below the knees. The checker cannot check from behind, nor can he hit with his stick the body of the player checked. Near the goal the chief member of the defense is the goalkeeper; he must be an outstanding stick-handler.

A player must neither strike, hold nor trip an opponent, nor check him after he has thrown the ball. He must not throw his stick at a player, nor at the ball. He must not interfere with an opponent who is pursuing another player, nor interfere with another player's stick except when contending for the ball. When "time"

is called, all players must remain where they are until the referee signals for play to resume. Threatening, profane or obscene language is prohibited.

Fouls are classified as technical or personal. Offside play is an example of a technical foul, for which the penalty may be suspension of the offending player for one minute, or loss of the ball. For more serious technical fouls, the referee may suspend a player for as long as seven minutes, during which time no substitute may take his place. Personal fouls include unnecessary roughness and unsportsmanlike conduct. The penalty for a personal foul is suspension for the remainder of the game. Ten minutes must elapse before a substitute can replace a player suspended for a personal foul. The vexatious delays that result from penalties in baseball, basketball and football seldom interrupt the fast-moving action of a lacrosse game.

Let us turn now from consideration of the history, equipment and rules of the game to the question: What are the merits of lacrosse?

Players really enjoy the exhilarating exercise that this game affords. Players of other sports, even basketball and football players, prefer lacrosse; they immediately express surprise at the pleasure they get from playing it. It is fortunate for all concerned that their playing seasons do not conflict. Many college players, after graduation, join lacrosse clubs and continue for years to play as amateurs because they like the game. It is an excellent body builder and conditioner, especially to develop legs and lungs. All trainers, I believe, agree that running, when done as in lacrosse, without conscious thought of the action, is the best possible conditioner. Lacrosse develops self-control, coordination of m i n d and muscle, courage and endurance. The fact that players get such remarkable training and enjoy getting it is one of the outstanding merits of lacrosse.

From the viewpoint of the spectators, lacrosse is a thrilling exhibition. It combines many of the interesting features of hockey, basketball, track, baseball and football. When two players race for the ball, or when a player in midfield attempts to outdistance his opponents in a dash toward

Defensive Work

the goal, all the thrills of a track event are there. Clever stickwork and fast passing reveal skill that calls forth involuntary applause. The dodging, change of pace, grace and elusiveness of the players arouse continuous interest. Though the pace is fast, the play is so open that spectators can follow the game without difficulty. The teams seldom take time out; consequently, there is action from start to finish. Various combinations for attack or defense, formed on the initiative of the players as they race along the field, bring a succession of surprises as each man contributes his share to the success of his team. Lacrosse is a game that no dugout czar or sideline strategist can control. Spectators enjoy it because the whole show is there on the field in the skillful hands of the players themselves.

The organization that has a lacrosse team reaps great benefits. Lacrosse is a team game in which individual stars can accomplish very little without the whole-hearted support of their team-mates. The spirit of cooperation engendered by the team play, in which each man acts on his own initiative for the common end, has lasting effect upon the players and upon those who witness the play. Certainly every military organization can benefit from that better conception of teamwork which lacrosse fosters—teamwork in which helpful initiative renders rigid control unnecessary.

For the organization that lacks material to produce a winning football team lacrosse has a special appeal. In lacrosse weight is less important than in football; lightweight men who have speed and stamina can hold their own. Johns Hopkins University, whose football team has been of secondary importance in intercollegiate contests, has won the lacrosse championship of the United States for the past two years. The infantry organization which adopts lacrosse will find it an excellent morale builder.

Every organization that supports a football team will find lacrosse the ideal spring sport for the development of good football players. Backfield men who need experience in broken-field running can become expert on the lacrosse field. Ends can improve their speed; linemen can add spring and endurance to muscles that would otherwise get less chance for exercise between football seasons.

In the infantry we are particularly fortunate in having numerous good lacrosse players. For seven years cadets at West Point have played lacrosse as an intramural sport, and for the past five seasons West Point has played successful intercollegiate lacrosse. Any officer who graduated from the Academy during the last five years should, with the aid of a rule book, be able to organize and coach a lacrosse team. Furthermore, there are undoubtedly many other officers in the infantry who have played lacrosse. Most of them would jump at a chance to teach the game.

Why not adopt lacrosse as one of the main sports in the infantry? We have the coaches and the men. We can easily get playing fields and equipment. The game will do wonders for enlisted men and officers, will be a fine spectacle to watch and will benefit every organization that takes it up. Lacrosse is pre-eminent among sports for the training and conditioning of infantrymen.

Aerial Attack on an Infantry Battalion

From an Infantry School Document

THE purpose of this study is to describe and analyze a test or demonstration of a simulated aerial attack on an infantry battalion on the march, with comments, conclusions and plans for future tests.

The simulated attack was a part or phase of a series of infantry-artillery-air demonstrations conducted at Fort Benning, Georgia, on May 3 and 4, 1927. The primary purpose of this particular phase was to demonstrate means, both passive and active, within the infantry, for its protection against low-flying hostile aircraft, in order that there may be made further studies for the development of weapons and tactics for the improvement of those means. The demonstration was partly in the nature of a test or experiment, in that points were to be considered as they arose, faults remedied, and advantage taken of new ideas. The particular phase with which this study deals took place on the morning of May 4, 1927.

Arrangements were made for a provisional battalion of infantry to be attacked one or more times, while on the march, by attack aviation, at least one of the attacks to be preceded or covered by a smoke screen or cloud to be laid by pursuit aviation preceding the attack planes.

The area utilized for the test was that portion of the First Division road from Strickland Ridge westward to Davis Hill. The weather was warm, fair and clear, the visibility excellent and the sky practically cloudless. The test commenced at 9:00 a. m. and lasted about half an hour. The terrain utilized was broken and somewhat wooded, with open country on the ridges and knolls. The road was of red dirt, winding and rather hilly, with fair cover here and there along both sides. In places the road was bounded by banks, or passed through shallow cuts with sides two or three feet high. The cover consisted of some high grass, shrubbery and, in places, thin woods and small trees.

The battalion was composed of three student-officer rifle companies from the Company Officers' and National Guard and Reserve Company Officers' Classes at the Infantry School, and a machine gun company (H) from the 29th Infantry. The battalion was commanded by Major Evan E. Lewis, Infantry, with a staff of student officers, all mounted. The machine gun company had its gun and ammunition carts. Each rifle company comprised two platoons, each of six squads; the machine gun company was organized into two platoons of four squads each. In each rifle company only two squads were armed with the rifle, as it was contemplated that only this strength would be used for antiaircraft defense. The machine gun company had one gun in each platoon on an improvised mount on the carts for purposes of antiaircraft fire. The uniform of the three rifle companies was service with shirts; no packs were carried. The machine gun company uniform was service, with shirts, sidearms and light packs.

The aviation engaged comprised

nine attack planes and two pursuit planes. An observation plane equipped for photographic mission was up during the test to take photographs, but was not a part of the test.

The battalion commander was instructed to march west at 9 a. m. along the 1st Division Road from BM 51. No destination was prescribed. He was informed that hostile aviation was active.

The air service was told that at 9 a. m. an enemy battalion had been observed marching west along the First Division Road with its head at BM 51. The pilots were unfamiliar with the terrain but had been furnished maps thereof.

The battalion commander conferred with his company commanders and staff several days prior to the test and gave instructions regarding the defense against hostile aircraft. These instructions were transmitted to the personnel of the companies, and a rehearsal was conducted without the aircraft.

The orders of the battalion commander prescribed that the battalion would be assembled in the vicinity of BM 51 on Strickland Ridge and formed in column under cover, the machine gun company at the rear of the column. Two buglers were attached to each company and the company commanders were directed to designate observers and to authorize the buglers to sound "call to arms" whenever the observers saw or heard an airplane approaching the battalion. All planes were to be considered hostile. No bugle call except "call to arms" was to be sounded except upon orders from battalion headquarters. Men were to be instructed that in taking cover they were to go no farther than twenty yards from the road, this in order that units might be kept under control and that the men might be halted and lying down by the time the planes reached the vicinity of the battalion. If there was no cover within twenty yards of the road the men were to get off the road, lie down and remain immobile. In all cases bunching was to be avoided.

Prior to the rehearsal it was prescribed that in taking cover where there was no apparent choice as to which side of the road offered the better concealment, or in leaving the road where no cover was available on either side, the leading company would move off to the right, the second company to the left and so on. If it was apparent that good cover was available on only one side, the entire column would move off to that side. In any case the formation under cover was to be—in so far as was consistent with a minimum time of reaching concealment—a provisional formation of a column of sections, with each section in a close line of squad columns without distance. This, it was believed, would afford the maximum dispersion without extending the original length of the column.

Subsequent to the rehearsal the instructions were amended so as to provide that in each company the leading squad, under the circumstances as outlined above, would move off to the right, the second to the left and so on, the squads to deploy as skirmishers. Corporals were to maintain control of their squads.

In the machine gun company a similar method was to be adopted. The company was to march in route

order, and in case of taking cover on both sides of the road, squads were to alternate as in the rifle companies, and the gun carts were to go to one side, the ammunition carts to the other. The machine gun company commander rode with the carts.

As an active defense against attacking planes, two squads in each rifle company and two machine guns (one in each platoon) already mounted for antiaircraft fire, were to open fire on the planes. All fire, of course, was to be simulated.

The march of the battalion was to be resumed on the road in column if no attack materialized or if no further attack was imminent; or off the road in the approach formation if further attack was expected but if advance was nevertheless necessary. In the former case a bugler, upon orders from battalion headquarters, was to sound "assembly" and then "forward, march." In the latter case "forward, march," only was to be sounded.

The battalion assembled, as ordered, and formed in column of squads in the order B, C and E, of the Academic Department (student-officer companies), and Company H, 29th Infantry. The column then commenced the march, on the First Division Road, westward toward the Fort Benning garrison. Shortly thereafter a single plane appeared at about two thousand feet altitude and the prescribed alarm was given at the head of the leading rifle company. The battalion took cover at once, but re-formed on the road and continued the march on signal coincident with the receipt of instructions to the effect that the plane observed was a photographic plane and not a part of the test, and that only planes in formation, *i. e.*, attack planes, would be considered as hostile. The column had advanced only about two or three times its length when the alarm was sounded again from the rear of the column. Three planes, in "V" formation, flying very low, approached the column from the left rear at great speed. The column took cover at the alarm signal, on both sides of the road, all troops were concealed from air observation by the time the planes reached the vicinity. The first plane formation was followed closely by a second and a third similar formation—nine planes in all. Their altitude as they passed over the column was between seventy-five and one hundred feet, and their speed probably one hundred and twenty-five miles per hour. The planes swung off to the south (left) and returned to attack after the column had re-formed on the road. Two more attacks were made, each time the column taking cover in from eight and one-half to twelve seconds. The planes reached the column in from fifteen to twenty-five seconds from the time they were first observed or heard.

A final attack was made under, or rather over, cover of a smoke screen or cloud laid by two pursuit planes, flying at about two hundred feet. This cloud was laid rapidly from the rear to the head of the column, generally parallel to it and to the windward (north) side so that the drift was toward the column. It consisted of a dense white smoke caused by the release into the atmosphere of titanium tetrachloride, a fuming colorless liquid. It effectively concealed the attack planes which followed close upon the cloud and which

theoretically machine-gunned and bombed the area covered by the cloud.

As each attack was made by the planes the two armed squads in each rifle company, having moved off the road, deployed somewhat, knelt and simulated fire as long as the planes were within range. The machine guns designated to fire also simulated fire.

The test was stopped when the column reached Davis Hill; the time consumed in advancing seventeen hundred yards was about thirty minutes, a rate of march, therefore, of two miles per hour.

COMMENTS

The outstanding features of the attack from the air were the sudden appearance of the planes, the rapidity of their attack, their low altitude on reaching the column and the effectiveness of the smoke cloud. The planes approached close to the column below the immediate horizon, *i. e.*, concealed from view by the surrounding ridges and trees. By taking advantage of terrain—that is, by catching the column when it was in a hollow—they could be on it within a very few seconds and secure a large measure of surprise. The speed of the planes was great, a point which operated both for and against them—for, as it aided in surprising the column and in making a very poor target for the troops, it also prevented any satisfactory observation at such high ground speed, and thus made machine-gunning and bombing on the part of the planes largely guesswork.

The low altitude of the planes increased their opportunity to surprise, but contributed to poor observation, decreased the length of time their guns might fire, increased their vulnerability to fire from the ground, increased the risk of crashing and injected the possibility of following planes being caught in the bomb bursts of their predecessors.

The effectiveness of the smoke cloud as a concealment for attacking planes was very marked; ground fire would have to be largely at random and guided by sound. The question at once arose as to what would be the effectiveness of a gas or lethal liquid substituted for the smoke.

The false alarm occasioned by the appearance of the photographic plane illustrated the condition that might easily arise with both friendly and hostile aviation active. Too many alarms not only materially delay the advance of the column, but also make the troops jumpy and fatigued, and cause loss of control. A parallel may be drawn from the conditions in some training areas in France close behind the lines, where orders were in effect that troops would take cover on the appearance of any planes, and where, consequently, little training was accomplished.

The machine gun company lacked sufficient observers and buglers and, as it was at the rear of the column, attacks from that direction were not made known to the forward elements as soon as they should have been.

Infantry observers in the attacking planes later reported that at times they could see no troops whatever, while at other times they could see enough to identify the presence of troops, and that occasionally transportation could be identified as the planes passed over. However, it must be remembered that these were not experienced aerial observers.

In at least one case there was doubt in the mind of a ground observer as to whether he should direct the sounding of the alarm; such a doubt or misunderstanding might easily lead to very serious consequences. The responsibility for directing the soundings of the alarm should be definite.

With regard to the firing of the infantry the question naturally arises as to whether it is not better to fire with all available weapons and thus increase the possibility of hits, inasmuch as the scattering of the squads of the battalion obviously reveals the presence of a target worthy of attack from the air. Experience in France proved that planes can be brought down by infantry fire and post-war tests have confirmed this. In any case there is a question as to whether units designated to fire should first take cover, or deploy, and thereby, in either case, probably sacrifice accuracy or lose the opportunity to fire; or whether they should kneel and fire just where they may happen to be. Again, should fire be by volley, by command, or at will?

No distances, other than those normally prescribed, were provided between units in the column. It will be remembered that during the World War it was the practice while marching on roads within hostile artillery range to prescribe a distance of fifty yards between platoons and one hundred yards between companies, thereby decreasing the command's vulnerability to hostile fire, but increasing very materially the length of the column and the consequent comparative loss of control and additional time necessary for a unit to reach a given destination. However, the additional distances would serve greatly to decrease vulnerability to air attack.

The pre-rehearsal deployment formation of companies taking alternate sides of the road was unsatisfactory, as it resulted in a troop density throughout the depth of each company of twice what it would be with each company using both sides of the road throughout its entire length. In a lesser degree this is true of the alternate-squad method. It would seem that the best method would be one in which, from a column of fours or squads, the right two files take cover to the right, the left two files to the left. The objection to this lies in possible loss of control by the squad leader, but by this method there is no greater dispersion than in deployment for combat, since the lateral dispersion is limited by the rapidity of the aerial attack to not more than forty yards.

Total loss of time in taking cover after an alarm is the inevitable result of injecting the question as to which side of the road individuals will go under different conditions. To leave more than one course open to the individual taking cover; in other words, to require him to make any decision other than the automatic one of getting off the road; or to require such a decision by his superior and the transmission to the individual, to be made after the alarm is to lose time unnecessarily. Poor cover reached in time is better than good cover reached too late.

The warning signal chosen in this test was not satisfactory—it was too long and complicated, was not familiar to all troops, and was not known by all buglers. Furthermore, bugle

signals have the disadvantage that time is lost in starting to blow them.

It must be remembered that in this test three-fourths of the companies were composed entirely of officers in light marching equipment, that the test had been explained to them; that a rehearsal had been held over the ground chosen for the test; that they knew that the attack was to take place and knew the approximate time and place of attack, and finally that it was simulated and, therefore, not accompanied by the confusion that results from casualties.

While the column did not continue the march to its destination (it was contemplated that the problem terminate on Davis Hill), it would appear from the rate of mrach that the accomplishment of its mission would have been seriously jeopardized by frequent deployments and reassemblies.

CONCLUSIONS

There are three lines of action open in case of aerial attack: passive, active and a combination of the two. The passive action consists of adopting an initial formation intended to minimize losses in case the column is caught on the road, of taking cover in the event of attack, and of taking up a dispersed formation under cover in which individuals so conduct themselves as to prevent the least apparent target. The active defense consists of opening fire — preparations having been made beforehand to do so—with all available weapons, in the hope of bringing down the attacking planes or of driving them off. A combination of the two may include dispersion, and fire from all weapons, or fire only from certain designated units while the rest of the column takes cover and disperses. Which of these lines of action will be taken is governed largely by the mission of the column; in other words, whether speed of advance can be sacrificed in the interest of conserving personnel. In any case it should be clearly understood beforehand what steps are to be taken in case of aerial attack; the advent and passage of the attack are far too rapid to permit of any delay in whatever action is to be taken. Casualties must be expected as a part of the cost of battle, and it is better to reach a given point at the required time with loss of some personnel than to reach there not in time but with personnel intact. It is worth remembering that the aerial attacker at low altitude is faced with a difficult problem in striking a column at an angle and at a point which will give his fixed machine guns play; and that, after all, bombs are no worse than the artillery fire with which infantry has had to deal in the past.

If fire is used to repel an attack by airplanes, it would seem better to fire "at will" with as great a volume as can be obtained. Propellers are vulnerable as well as personnel.

While the element of surprise will be an important factor in the initial air attacks, it is probable that these attacks will be quickly repeated, and that they will be made by planes in formation so that those following the leaders may be engaged with some preparation. Aviators are as human as the ground troops, and it cannot be expected that they will consistently sacrifice themselves if they can be shown that their attacks will be met by active and effective resistance.

Aerial attacks are at present hard on the morale of ground troops, and their morale will suffer inversely as the troops are made to feel their impotency. Accordingly, infantry should be made familiar with the powers and limitations of aviation and with the powers of infantry to meet and defeat aerial attack.

The formation of columns should be such as to present the least vulnerable target; therefore, there should be such distances between units in column as are consistent with the maximum road space that may be occupied and with the speed with which the rearmost units must reach a given point. The formation should be that which will permit the quickest and most efficient dispersion if cover is to be taken. In order to attain the minimum uniform density and to minimize the distance which the last man to reach cover has to go, and hence the time necessary for the column to reach cover or concealment, it is best that from a column of fours or squads the right two files go off to the right and the left two to the left. Should this meet with the objection that integrity of units is thus threatened, it must be remembered that, due to time limitations, the lateral dispersion cannot be as much as, or more than, that met with in normal extended order formations. In this connection, however, it is suggested that serious consideration be given to the adoption of a route column formation in campaign, especially where aviation is active, in which troops in column of fours march habitually in pairs of section columns; that is, in each platoon the sections march abreast in section columns without interval. Such a formation would permit of the most efficient dispersion in case of air attack, and at the same time would eliminate one step in the normal deployment for the approach march. Nor would the column be less amenable to such movements, such as changes of direction, as are necessary in the field. Control would not suffer.

Observers to watch for hostile aviation should be specifically designated and should be thoroughly familiar with types of aircraft. Lateral or flank patrols should include such observers, who should visit high ground adjacent to the route of march in order to give prompt warning of any hostile planes flying low in order to surprise the column. Observers should be placed at frequent intervals throughout the column and should be sufficient in number at each point so that observation in all directions from each station in the column can be constantly maintained. Particular attention must be paid to the rear.

Responsibility for s o u n d i n g an alarm should be fixed and definite, so that no time will be lost in transmitting the alarm to the column, and so that, at the same time, false alarms may be avoided. Officers are usually sufficiently numerous, and so placed in the column as to satisfy these requirements. The important point is that the authority initiating the alarm be close to the observer.

The alarm signal should be simple, unmistakable and capable of being heard and understood. It should be such that it can be promptly and easily given. A series of short blasts on the whistle or bugle, aided or seconded by verbal command, would serve. The alarm should be such that

troops can act immediately upon hearing it. Seconds count.

Fire units, especially automatic weapons and machine guns, should be distributed throughout the column. Machine guns concentrated at the rear of a battalion leave the head unprotected. It is most desirable that machine guns be "leap-frogged" along the column, in order that some guns may be available at all times. Obviously, motorized antiaircraft machine guns would fill this requirement.

The two most important points to remember are that in the event of aerial attack time is a most important factor, and that any action taken should not be such as will jeopardize the accomplishment of the assigned mission.

Plans are being formulated to conduct further practical joint tests at the Infantry School with infantry and air troops, with a view to determining the vulnerability of infantry formations, the efficiency of formations as regards concealment, the comparative rapidity of air attacks and infantry dispersion and the influence of such attacks on the assigned missions of infantry.

Pacifist Activity.

ALTHOUGH a great war is less than ten years past, the United States already has reverted into a state of somnolence on matters of preparedness. Such activities as a standing Army of 110,000 may engage in are vigorously opposed. Objection is raised to any form of training which would fit the Nation's citizens for war, if such a contingency should arise. False theories of universal brotherhood are offered this country, in the face of unmistakable signs that the rest of the world is swayed by no such foolish dreams. Paper battleships, skeleton armies and the cultivation of an inferiority complex will not serve to maintain the United States as the best place in which to work and live.—*Washington Post.*

Adjusting 37-mm. Gun and Mortar Fire

Captain Andrew D. Bruce, 29th Infantry

THOROUGH and efficient training of the observer to adjust 37-mm. gun and 3-inch trench mortar fire is essential for the effective use of these weapons either on the marksmanship range or in combat. The partially trained observer can become proficient in observation and adjustment of fire only through practice. And the observer can get most of the necessary practice without the use of costly service ammunition.

The officers of the Howitzer Company, 29th Infantry, have developed a system, none of the elements of which is new, that has been very successfully used during three periods of marksmanship. This system is suited to both training for marksmanship and classroom instruction in technique. It would be especially valuable during the winter season to troops in the northern areas, to National Guard units in armories, and to R. O. T. C. units in classrooms.

The system is simple and has distinct advantages and possibilities. It calls for little extra equipment, and consists of only three stages of instruction: (1) with the use of the "burst" pointer, (2) with the air rifle alone, and (3) with the air rifle attached to the 37-mm. gun.

To put the system into operation, one needs only the following modest equipment. (See Plate 1):

a. Air rifle of good power, with BB shot. When it becomes necessary to attach the air rifle to the side of the 37-mm. gun, this can be done by placing small wooden blocks between them and strapping them together; or steel clamps can be made to hold the air rifle in position.

b. Blackboard, chalk and eraser.

c. "Burst" pointer. This should be about four feet long and should be split at one end. A small irregular ball of cotton, about one-half inch in diameter, placed securely in the split end, is used to represent the "burst."

d. Cards, three by four inches. They should have numbers such as ten, eleven, twelve, etc., to indicate one thousand, eleven hundred, twelve hundred, etc. During the first stages of instruction the cards are set up on the side of the miniature range at assumed one-hundred-yard intervals to indicate ranges to the targets.

e. Field glasses.

f. Miniature range. This can be constructed either on the ground or on a sand table. It should have such features as ridges, hills, ravines, trees, stumps, woods or any others that lend

Plate 1 *Signal Corps Photo*

The Equipment

Plate 2 *Signal Corps Photo*

"Burst" Pointer placed to indicate a shot in front of the target

realism and variety. Miniature machine gun emplacements, "pill boxes," houses, moving tanks and the like, added as the instruction progresses, will stimulate interest. Lime added to the sand will make observation easier by giving an appearance of smoke when struck by shot from the air rifle.

g. 37-mm. gun with sights.

The method of instruction is as simple as the equipment.

The observer takes up fire adjustment along with the subjects of the expert test. The results of this instruction are better, and the work itself is easier, if the instructor trains the observers in groups and requires each man to follow and solve each exercise in his own mind. Observers should not fire service ammunition until they have completed their instruction on the miniature range.

The equipment is set up with the 37-mm. gun placed approximately one thousand inches from the general area of the targets. The observation point may be at the gun position or to a flank, depending on the exercise. The observer uses field glasses so that the represented bursts on the miniature range may look like real bursts on a regular range.

Exercise No. 1—(Direct laying).—The instructor designates a target which is also the aiming point. The observation point is near the gun. The observer computes the initial firing data for engaging the target and giving the fire order. During the early stages of instruction the observer may pattern his fire order after a model on a blackboard near his position. When the observer has given his order, the instructor (standing alongside the miniature range) says "on the way" and momentarily places the tip of the "burst" pointer at a point on the range approximately where the fire order would cause the shot to strike. (See Plate 2.) The observer estimates the errors in deflection and range and issues a fire order to correct them. (See T. R. 420-30.) Again the instructor represents the burst, the observer estimates the errors and gives the fire order to correct them. This goes on until the required bracket for effect is obtained.

For example: The instructor designates a target, that is also to serve as

aiming point, on the miniature range at a range of approximately one thousand; the observer gives the fire order: "Low explosive, Zero, eleven hundred, That stump, One round." The instructor places his pointer beyond the target; the observer sees that the burst is an "over" and issues the fire order: "Nine hundred, One round." The instructor places his pointer before and to the right of the target (to bring out a deflection change); the observer estimates the error in deflection with his field glasses, sees that the burst is a "short," and issues the fire order: "Left ten, One thousand, One round." the instructor places his pointer in front or in rear of the target or hits the target, depending on what point he desires to bring out. Should the observer give an incorrect fire order, such as right deflection instead of left deflection, the instructor places the "burst" as called for, in order to emphasize the error by demonstration.

Exercise No. 2—(Direct laying).—The instructor places his pointer in aiming point other than the target, and points out the observation post. The observer computes the initial firing data for engaging the target. The actual vertical and horizontal differences in mils between the target and aiming point as measured with the field glasses on the miniature range are used for calculating initial firing data. (See T. R. 420-30.) The observer issues the fire order and the instructor places the bursts until the problem is completed as in Exercise No. 1.

Exercise No. 3—(Indirect laying). Before the exercise the instructor has two or three aiming stakes set up a few feet in front of the gun position, and a contour outlined on the miniature range and arbitrarily assumed to be on level with the gun, so as to give a zero angle of site. The instructor designates a target and points out the observation post. The observer computes the initial firing data by measuring the horizontal difference in mils between the target and the aiming stake, the vertical difference in mils between the "zero angle of site contour" and the target for the plus or minus angle of site, and by estimating the range. The observer issues the fire order and the instructor places the bursts until the problem is completed as in Exercise No. 1.

Other Exercises.—When the observer has progressed sufficiently, he works out more difficult problems to bring out: the necessity of remembering where bursts at certain ranges appeared; the necessity of constant study of the terrain so as to recognize when bursts are "lost over" a hill, "lost short" in a ravine in front of a target, "lost" in a woods on a flank, and the like; the necessity of studying wind conditions, as when a cross wind causes the smoke to go across in front of or behind a target; correcting a shot in deflection only, as when the burst appears to be correct as to range but off of the line from gun to target, and determining whether the shot is an "over," a "short" or a "target" at that range when on the line-gun target; and the necessity of making corrections for the difference between the observed error in deflection and the actual deflection to be set off on the sights, depending on the position of the observer in front, rear, or flank of the gun. The observer may be required to use signals in transmitting

Plate 3 *Signal Corps Photo*

Shots from an Air Rifle make excellent "bursts"

fire orders for the 37-mm. gun and mortar to the gunner, and so on.

For example: The target is near the crest of a hill; when the fire order is issued the instructor says "on the way," and places a burst considerably "short" of the target; when the observer increases his range in the next fire order, the instructor says "on the way," and places a burst just short of the target; when the observer increases his range in the next fire order, the instructor says "on the way" and adds "Z-z-z-zt-BANG" and does not place a burst on the range; the observer may assume this is a "dud" and calls for another round; the instructor again says "on the way" and adds "Z-z-z-zt-BANG" and does not place a burst on the range; the fact that the first burst was considerably short of the target, the second burst was just short of the target, the next two bursts were not seen and the target was near the crest of a hill, justify the observer in assuming that the last shot was a "lost over," and in continuing his adjustment on this assumption.

An air rifle of good power with BB shot may be successfully used instead of a "burst" pointer for placing bursts on the miniature range. The burst pointer is useful only in the early stages of instruction, because the shaft of the pointer gives the location of the shot more readily than the cotton representing the burst. The instructor may fire the air rifle at the point where he desires the burst. (See Plate 3.) Seen through the field glasses, this "burst" is realistic and introduces on the miniature range the same problems that come up on the regular range. For instance, if there is a cross wind the dust and lime from the burst from the air-rifle shot will drift across the miniature range. An electric fan can be used indoors to create wind conditions.

The air rifle may be attached to the side of a 37-mm. gun. It should be adjusted so that the shot will strike at a range on the miniature range corresponding to the range set off on the telescopic or quadrant sight. The observer issues his fire orders, the gunner sets the sights and lays the gun, and Number 1 loads and fires the air rifle. Thus, both the observer and the men serving the piece receive training in their duties. (See Plate 4.)

In conclusion, it should be borne in mind that the use of air instead of powder for sub-caliber work is not fully developed. It has been effectively used in a sub-caliber attachment to a 37-mm. gun and to simulate mortar fire by propelling golf balls, and it

Plate 4 *Signal Corps Photo*

Calculating Firing Data
(The Arrow marks the position of the Target)

can be used just as effectively with other weapons.

The attachment of an air rifle to the side of a 37-mm. gun does not injure the bore of the gun. The use of air as a propellant has the advantage of being comparatively noiseless for indoor practice; of requiring only a thin back stop; of being simple to use, requiring no highly complicated system of wiring, batteries and controls as in using electrically simulated bursts; and of costing much less than where powder or electricity is used. The cost of an air rifle ($4.50) and BB shot ($2) for the training of an entire company is less than the cost of five thirty-seven-mm. low-explosive shells ($8.70), the usual number of rounds required to adjust fire in one problem.

The "burst" from an air rifle on a miniature range is surprisingly like the burst of a shell on a regular range, and it presents exactly the same problems in observation and adjustment that a similar shot in field firing presents. The air rifle, used as above described, is a great interest-sustaining device and is a powerful aid in training.

Memorial to General Wood

IN recognition of the services to Cuba of the late Major General Wood, its first governor, the Society of Instruction and Recreation of Santiago de Cuba will erect a memorial in that city. This will take the form of a bust of bronze, mounted on stones brought from Winchester, N. H., the birthplace of General Wood.

Map Problems by Radio

Captain G. S. McCullough, Infantry

DURING the past year the professor of military science and tactics at Culver Military Academy, Major Thomas J. Johnson, Field Artillery, has conducted an experiment in instructing National Guard and Reserve officers by radio. He built up the instruction around the idea of broadcasting simple map problems. So satisfactory were the results of the experiment that its sponsors hope that it will prove to be the forerunner of a plan to reach hundreds, and even thousands, of military students by radio.

Culver was a most favorable place at which to make the experiment. It has a radio station—WCMA—and its superintendent commands the 168th Brigade. In his report to the War Department on the experiment, Major Johnson said, in part:

"The Culver Military Academy is a school which is not operated for profit, but as a memorial to the founder, Mr. Henry Harrison Culver, by his children. The board of trustees is very public spirited, and the school facilities are often used for contact camps and active duty training of Reserve officers and in many other ways of distinct benefit to the War Department. The use of the school's radio station for these problems was offered, and the funds necessary for the distribution of special maps and literature were furnished by the institution. General L. R. Gignilliat, Reserve Corps, superintendent of the Culver Military Academy, is the commanding officer of the 168th Brigade of the 84th Division. The officers of his brigade live in the surrounding territory. General Gignilliat immediately offered to sponsor the experiment, which was to be primarily for the benefit of his brigade. The headquarters of the 84th Division became very much interested and rendered very valuable assistance."

The problems used were of the most elementary kind in the minor tactics of infantry. In all, five problems were prepared; one a patrol problem used as an illustrative problem, and four that were given out to be solved by the radio audience. The four problems constituted a series. The subjects were: first, a patrol sent out from the support company of an outpost; second, the march on the next day, with a company as the advance party of an advance guard battalion; third, the advance guard being fired upon, its deployment and the action of one company in the attack; and fourth, the pursuit by the reserve company of the battalion and the action of a flank guard. All of the problems stressed giving orders (the correct form) and the demonstration of tactical principles; and a summary of tactical points to be noted was given at the end of each problem. In order to stimulate interest throughout the surrounding territory the actual names of Reserve officers of the 168th Brigade were used for all commands, and the real units of the 84th Division were employed in the problems.

Five broadcasting nights were used to complete the "school." The first

night was Monday, February 28. Before the map problem was given out the Academy band broadcasted a thirty-minute concert. This was for the purpose of allowing everyone to tune in accurately and was a regular feature of each "school" night. On the first night the illustrative problem was broadcast first. This was given completely. The general situation and the first special situation were announced. After each special situation a solution was read and that, in turn, was followed by the comments. Before the problem was read, complete and careful instructions were given out as to the procedure to be followed in solving it. After the illustrative problem had been completed, the general and special situations were given for the problem to be solved on the following Monday night, and WCMA signed off.

From then on it was merely a matter of routine. Each "school" night, after the band concert, the general and special situations of the problem which had been given out on the preceding Monday night were read again, followed by the solution and comment for each situation. Then the general and special situations were read for the problem to be solved the following week. In this way the listeners always had a solved problem against which to check their work, and the situations of the new problems to work on during the week.

In broadcasting these problems the Reserve and National Guard officers of the faculty, of whom there are about thirty, greatly assisted the Army officers on duty at the Academy. It was thought that the use of officers of the 84th Division as announcers would help stimulate interest, so we made a hunt for officers with the proper radio voices. We discovered by accident that anyone with distinct enunciation and who would speak slowly enough had a good radio voice. For the rather elaborate first-night try-out we had selected three officers for the quality of their voices. On the night of the broadcasting, through no fault of their own, two of them were absent and two new ones had to take their places. The substitutes did so well that from then on we used different officers on each of the five nights, about fifteen in all. In order to use as many officers as possible, one officer read the situations and introduced the officer who was to read the solutions, who, in turn, introduced the officer who was to read the comments. As the officer reading the comments read the last one he introduced the officer who was to give out the situations for the problem to be solved for the following week. In this way the whole experiment was of intense local interest, for the problems were on an Indiana map, real Reserve units were used and the actual officers of those units were doing the announcing. As a means for stimulating interest in Reserve units in the different corps areas the method seems to have immense possibilities.

The weeks of preparation were busy ones. As it was an entirely new field for all concerned, every phase of delivering the finished product through the microphone had to be investigated. How fast could the problems be given? What parts had to be repeated? What to stress and what to eliminate? All these questions had to be answered, and the only way to do it was by ac-

tual experiment. A loud speaker was set up in one room and the "mike" in the other. While one officer "announced," another one sat at a table with a map, paper and pencil and listened through the loud speaker. Another officer acted as messenger and, when the going was too fast, so informed the announcer. Repeats of certain parts were called for, and it was discovered that the repetition of descriptive parts, such as coordinates, had to become a regular routine. This rehearsal had to be done over and over until a finished product was the result. As a further check on speed of the amateur announcers, during the actual broadcasting an instructor sat in front of the announcer and wrote in long hand all the dictation that was going out to the audience. Because this instructor knew all the problems by heart, and to check him, officers of the faculty were in an adjoining room actually doing what we all hoped the listeners were doing. If the announcing became too fast, a push button lighted a danger light over the "mike" and the announcer slowed down.

A month before the broadcasting started the Academy opened a publicity campaign. Announcements from WCMA were made weekly, and circulars were sent out by the publicity agent of the school. In addition, the headquarters of the 84th Division took it up officially, and the Reserve officers of Indiana were thoroughly circularized. The response was most gratifying. Letters requesting maps came in from as far east as Maine and as far south as New Orleans. After the first problem went out over the air more letters came in, and even one or two from our Canadian cousins requested maps. After the series was completed questionnaires were sent out to all who had asked for maps and presumably had listened in asking their opinions. Practically all were enthusiastic and stated that they thought the experiment had great possibilities. Criticisms were asked for—and received. In general, however, the critcisms checked pretty closely with those that we who were working at the station had made. Next year it is contemplated to put on a more elaborate "show" and, we hope, a greatly improved one. We learned a lot this year.

The Value of Knowledge

AN important machinery unit in a factory broke down and an expert was called in. He looked at the machine, tapped it with a hammer and told the operator to start it. It ran perfectly and kept running. The expert's bill was for $250. The shop superintendent grumbled. The price was ridiculous, he said, and asked for an itemized statement. The expert itemized it thus:

Tapping with hammer.....$ 1
Knowing where to tap.....$249

Public Opinion

Captain Richard Whitcomb, Infantry Reserve

PUBLIC opinion is responsible for most forward steps that take place in the United States. If backward steps should be taken, it is probable that public opinion would be found to be, at the time they took place, supporting them.

Public opinion may be based on subtly spread false information, even on "whispering campaigns"; or it may be based upon sound truths courageously adhered to. It is sure to be influenced by organized effort in one way or another.

There are other factors. One of these, and one of the most important, is the intelligence of those who are carrying on the campaign to influence public opinion. Another factor is their persistence. There are many others. These two are enough for this discussion.

What, it may properly be inquired, has all this to do with the Army? What has this to do with those who are interested in properly providing for the national defense?

Only this: Whether or not this nation is adequately prepared for such wars as experience shows will happen depends upon public opinion. This is affected by the intelligence and persistence of those who believe in preparedness, who are conscientiously concerned about the national defense. The importance of such efforts increases as we get farther away from any war. With a war every twenty years, it is obvious that preparedness is much more important the second decade after any war than it was during the first decade. We are now entering the second decade since our entry into the World War.

A lesson can well be learned from the public utilities. Time was when the public was not considered. That was the era of "the public be damned." As a result, the utilities and other big businesses found themselves at swords points with the public and their law-making bodies. The utilities fared badly and they learned a lesson. They violated the fundamental law of survival in a republic: To survive, a company or a policy or an institution must be liked.

But the problem of those who believe in national defense, who believe in the Army, is deeper than the problem of the utility. All that the utilities had to do was to make their service good and be as fair and friendly as possible every time they had a chance. They gave this program intelligent direction, and today the utilities are popular in the United States.

But the Army has to face a two-edged propaganda. It is under the fire of those who, apparently unable to deal in facts, insist on the adoption of ideas that experience has shown lead to the heavy loss of money and life, if not to national disintegration. These people are well-intentioned, perhaps, and endowed with more than their share of the "missionary complex." It seems as if every American were engaged in the task of converting other Americans to his way of thinking. This is a legitimate occupation, but indulged in by those who are espe-

cially adept in it, yet lacking in common sense, it becomes dangerous.

More dangerous because, having the intelligence to take advantage of these others who are well intentioned, are those who, for reasons of their own, seek to upset the social order through violence, to upset the government itself.

The success of these people depends largely upon the intelligence and persistence with which officers of the Regular Army, the National Guard and the Organized Reserves combat them. Officers of the regular service on detached duty, and officers of the other two components, are especially concerned.

Unfortunately, expert propagandists, people who have become expert in influencing public opinion, are too often found actively employed in the ranks of those who oppose any provisions for the national defense. To combat them those in the service must employ the same intelligent means. Therefore, there must be an acquaintance with the principles and practices of influencing public opinion.

There probably is no question as to the right of officers to express their opinions on what may be considered subversive propaganda. Certainly no limitations can rest upon officers of the National Guard or the Organized Reserves. It also seems fairly well established that the exercise of the right of free speech does not include the right to muzzle all those who might legitimately oppose someone wishing to exercise that right. If John Jones wants to talk in Siwash University, perhaps urging students to sign the "slacker's oath," Colonel Smith, on duty there, has a right to say what he thinks proper about the ideas Jones expresses. More than that, he has the right to do what he can to persuade those who can to exclude Jones from talking on the university grounds to do so.

The right of free speech does not include the right to talk everywhere, particularly where one is not wanted and not invited.

Colonel Smith, on the other hand, is not going to help his side of the case if he fails to use the proper tactics for securing favorable public oinion. Colonel Smith may be a fine tactician, but if he so discusses Jones as to arouse the ire of the press, and incite misled but well-intentioned people to rush to Jones' assistance, he is a total failure as a public relations man. And it is as a public relations man that Colonel Smith must function in that emergency.

Colonel Smith, it is clear, must do something besides exercise his rights. Among other things, he can exercise some of his military training. His first step, an estimate of the situation, may help him.

His mission is clear. It is to stop or neutralize the effect of the subversive propaganda.

The opposing forces at first appear about equal. Examination shows that the enemy, however, is better trained. He is probably doing this propaganda business for a living. Therefore, he is likely to be more proficient. Then, his supporting forces are well organized. While he may not be connected, for example, with the New York headquarters of a student organization, he may be speaking under its auspices in the State or at that school. This means that, until he is weakened somewhat,

he can count on the support of those who follow that organization and consider it an authority on economics, international relations and government, in addition to its *deus ex machina* relationships with the Kingdom of Heaven. This latter affiliation may bring the support of the churches.

In advance he may have the support of those who guide the destinies of an organization, or even of the organization itself, that claims leadership for, perhaps, twenty million Protestants in the United States, who protest before the Congress against preparedness, claiming to represent this large body. (It may be thirty or forty million—these statistics are not always permanent.) Therefore, the supporting forces are apparently large. While their adherence for an extended time may be doubtful, theirs is a weight that must be considered. Of course, it is overestimated. Colonel Smith may be a Baptist, or a Presbyterian, one of those claimed twenty million, and he is sure they do not represent him.

But, clever, the enemy has aligned himself, at the start, with those who have the reputation for thinking the best thoughts. That gives him a certain moral advantage. The local representatives of these organizations may be perfectly willing to renounce that leadership or exercise their right to form their own opinions. But they will not do so until there is some reason for it. They must be shown a snake before they will make any attempt to scotch it—and they have to be shown that it is really a snake.

Turning to his own forces, Colonel Smith finds that, while his first-line troops are not as well trained, there is considerable support available. Most of the people in the United States favor the things that Colonel Smith favors. The support that Jones counts on from local churches, for example, has always, in an emergency, been a force favorable to Colonel Smith's cause. Because of the smoke barrage that Jones puts down, they may not realize that the things Jones advocates are things they have never tolerated; that others who advocate the same things Jones advocates go farther and advocate additional policies or "reforms" that would abolish the churches themselves.

Then Colonel Smith, in considering his own strength, discovers, or remembers, that there are several organizations whose only reason for existence is their agreement in favor of the things for which he stands. He discovers that the men who write the news that goes into the press columns have had experience with people like Jones before. They have a natural suspicion of professional "uplifters," both their tactics and motives, and rather favor, in their own minds at least, the things that Colonel Smith favors. Of course, if the Colonel shows poor judgment in handling his side of the campaign, that poor judgment may alienate their support. They do not like to see things of that kind muffed. Worse than all, if Colonel Smith shows the slightest desire for publicity for himself, for getting his name in the paper, the gentlemen of the press will properly class him with Jones and say, "Two of a kind." Colonel Smith will have to remember that old maxim, "Be a publicity agent—don't have one."

The best support that Colonel Smith

has, he discovers, is from those persons with whom he has come in contact during his stay in that city. If he has carefully built up a large number of useful and friendly contacts, he will find there his greatest assistance.

Colonel Smith then comes to the possible plans of action open to Jones. He lists these about as follows:

1. Jones will prefer taking full advantage of the organization that schedules him, but does not assume responsibility for him through the pay roll, to attract a large and friendly audience which he can easily convert to his views.

2. If the audience is hard to secure, he will hope for opposition to develop and become vehement, attracting attention to his meetings and his program, thereby helping him to his audience.

3. If he should be openly and violently attacked, he will not mind, particularly if he is painted a deep black, or even red. In that case he will speak mildly and with apparent open-mindness, thereby leading people to believe that he is much maligned, and that fairness and justice are on his side of the controversy.

4. His greatest difficulty will come if he is unable to secure either a suitable place for his meetings, or a suitable audience. He may fail because of the lack of interest on the part of those who, he thinks, will or should support him. He may fail because of the determined opposition of those who are in a rightful position to deny him, such as the authorities of the university.

5. If he can be made to appear a martyr of some kind, he may have achieved half of his purpose, even though he does not get a chance to present his full story.

In considering the lines of action open to himself, Colonel Smith finds his field limited largely by the amount of preparatory work he has done. He is advocating national preparedness for war, and pointing out how disastrous such a lack of preparedness may be, he suddenly discovers that preparedness is not limited to armies. He finds a real need for preparedness in his public relations activities.

1. The first thing Colonel Smith can do, and the most natural, is to attack Jones publicly, describing him in true but harsh words. If he does this he is making a frontal attack. A frontal attack, the colonel should remember, rarely succeeds alone. It is suitable when the attacking force is overwhelming, or for a holding attack, or because no other form of attack is open. If Colonel Smith thinks, when hostilities open, that he has an overwhelming force, he has grossly overestimated his position. Much of the support Jones gets will be affected by the skillfulness of Colonel Smith's maneuvers. Much of his own support will depend upon the same factor.

The first result of the frontal attack will be to overemphasize the importance of Jones in everybody's mind. If Jones has one failing, it is to want to be considered important in everybody's mind. It will give Jones a great deal of publicity, and that is what Jones wants. It will give him a chance to be a martyr. It will give him a chance partially to desert his subversive program and, publicly call-

ing attention to his harmlessness and good intentions, place himself on such good terms with the community that he will always be sure of a crowd if he appears again.

Included in some other publicity about an incident of this kind was reported an unfortunate statement that "Jane Addams is the most dangerous woman in America." That was a frontal attack, part of the ammunition fired in an attempt to counteract the work of one of the most persistent, most subtle, and most capable of all the anti-preparedness advocates. It was an unfortunate statement. It was not even a true statement. It cannot be true because the term "dangerous woman" is relative. To Jiggs returning late at night, Maggie is the most dangerous woman, even in a town full of Jane Addams. Because Jane Addams is known for doing what is considered by many a very meritorious and helpful work in Chicago, she has had a great deal of favorable publicity. She is considered by many an authority on social service work. Of course, many people confuse her with the eminent Maude, and wonder how a dangerous woman could make such a delightful Peter Pan.

But until she receives publicity in connection with her views on the national defense, it is probable that those views will not carry much weight. They should not, of course. Those who are engaged in social service work very naturally acquire an overestimation of the importance of the individual. Partially, at least, our crime wave is a result of such thinking. So much importance has been given to the lot of the unfortunate and occasionally, we hope, unhappy criminal, that the public safety has been neglected. The law-abiding citizen is having his interests slighted, because the importance of some other individual, his enemy, has been overemphasized. Such thinking also places the importance of the individual above the welfare of the state. It is an unfortunate result that sometimes comes from doing unbalanced good.

Its importance becomes overemphasized if the good reputation a prominent person bears in one field is, through adverse attention, allowed to attach itself to the unsound views he may express on unrelated matters.

So if Colonel Smith opens a frontal attack, he will only be an advertising agent for his enemy, and he may use ammunition that will cause the press and the community to question his own open-mindedness, make untrue assumptions as to a possible bias on his part.

2. The next move open to Colonel Smith is an attack from the right flank. In this attack, he goes, personally, to the chancellor or president, and tells him everything he knows about this particular propagandist. The simple truth is enough. Colonel Smith can say, "There is a movement on foot, or a proposal, to have John Jones address the student body. These are the facts as I know them about John Jones. These facts come from these sources. I do not think the nation will go to pieces if John Jones talks here. On the other hand, I question whether or not any value will come from the presentation of ideas that are thought to be subversive. If you think it all right for him to come, you will understand, of course, that nothing I will do, or any of those, so

far as I can help it, who feel as I do, will do, will embarrass you in any way. We will keep still hoping by (referring here to Plan 4) effectively to counteract any harm he might do."

If Colonel Smith talks that way, he is talking sense, and he is using the best form of public relations. The nation is not going to fall after John Jones gets through talking, and other means can be adopted to counteract Jones.

3. The third plan Colonel Smith can follow is to attack from the left flank. That is an attack through the student body. It, too, is no public tirade, no talk made to a class of students about the approaching peril, no hard-worded diatribe. If Colonel Smith's position, and friendship with the individuals concerned justify it, he talks to those students who are prominent and important. It is their world, not his, and in fairness he should deal with the proprietors. He tells them the same thing he would have told the president if he had adopted Plan 2. Perhaps one of these students is the president of the student organization which is expected to sponsor Jones. If the president of that group is an open-minded young man, as it is quite possible he may be, he will appreciate the information he receives. All too often, however, the head of such an organization has been exposed to summer conferences that elevate impractical ideas which only those whose support comes from the donations of others can even afford to consider; he may have been associated with a "student secretary," such as one who took some satisfaction in saying that he did not "believe nationalism wholly wrong." Such a man is apt to have a fixed idea that those he regards as great leaders are on the right side.

Under such conditions, Colonel Smith will content himself with the support of those student leaders who are more open minded. He will depend upon them to maintain a certain balance in the student opinion.

4. The fourth plan of defense Colonel Smith may adopt is to let the propagandists say what they have to say, and depend on efforts after their departure to counteract what they have said, and on other future efforts to place him in a position to adopt Plan 2 or Plan 3 if there should be another visit.

In making his decision, Colonel Smith will certainly avoid Plan 1, and seek to secure an effective combination of the three other possible plans. His decision, to be sound, must conform to the following public relations principles:

1. Doing nothing to draw attention to the propagandists.

2. Making no statements that are open to misinterpretation.

3. Making only statements that will not offend those to whom the propagandist looks for support, and which will tend to win him the support of citizens who pride themselves on being fair minded.

4. Making his appeals only to those to whom he has a right to appeal; to those with whom he is sufficiently well acquainted to justify their confidence.

5. Being on the job all the time, doing his active work when there is the least opposition from the enemy.

American Heavy Tanks With the British Offensive.

Captain G. H. Rarey, Infantry (Tanks)

IN no battle of the World War did the American heavy and light tank units fight together. In our review of American tank actions we shall consider the heavy tanks first, not because they were the first to fight, for the light tank actions started first and extended over a longer period of actual fighting, but so that we may not have to break into the account of the light tank activities and shift to the British front for the review of the heavy tanks.

The 305th Brigade of Heavy Tanks, later changed to the 2d Tank Brigade, was organized in England in August, 1918, and consisted of the Brigade Headquarters, the 301st Battalion of heavy tanks and a medical detachment. The brigade arrived in France on August 24, 1918, and on September 29 took part in the battle of Le Catelet-Bony.

The purpose of the battle of Le Catelet-Bony was, by means of a series of operations, to capture the Hindenburg Line in the strongly fortified sector Bellicourt-Vendhuille and to exploit the success toward the east. The II American Corps, consisting of the 27th and the 30th Divisions, was attached to the Australian Corps for this purpose.

The attack formations and the objectives of the American divisions were:

One brigade of the 30th Division on the right was to advance 3500 yards on a front of about 3500 yards, with four battalions in line and two in reserve. The main objectives, apart from the trench systems, were Bellicourt and Nauroy. The 27th Division, on the left, with similar formation and frontage, had as its main objectives Bony and Gouy.

The taking of these objectives would complete the first phase of the action, and, upon the capture of the Green Line (Gouy-Nauroy), two Australian divisions were to execute a passage of the lines and take up the advance toward the Red Line.

The line of departure for the American troops was to be the Hindenburg outpost line, about twelve hundred yards west of the main Hindenburg defenses. General Monash, commanding the Australian Corps, made the general plan under the assumption that the action of September 18 would bring this outpost line under British control. But, because the British III Corps failed to complete its part of the program, it held only the right half of this line at the close of the action. The left half of the line of departure was, therefore, still in the hands of the enemy.

The American troops took over from the Australians on September 23. The 27th Division, on the left, found that its left was from one thousand to twelve hundred yards behind the line from which it was to advance on the 29th. General Monash decided that this defect should be remedied before the 29th, and directed an attack by

the 27th Division, assisted by British tanks, on the 27th of September, thus breaking in upon the preparations of this division for the larger action of the 29th. The attack was not a success. The 27th Division apparently had no better luck in the task of straightening out the line than the British III Corps had had. Nevertheless, small parties of the 27th are credited with actually having reached their objectives and maintained themselves in their positions, although surrounded by German troops, until relieved on the 29th. This operation left the 27th Division little, if any, better off than before, and it had only the 28th of September to get ready again for the action of the 29th.

Since the action to rectify the line had failed, the 27th Division knew that it would have to advance to the Outpost Line without artillery support, as the artillery schedule called for the barrage to start about two hundred yards ahead of the "assumed" line of departure. There was not sufficient time to change the schedule so as to have the barrage cover the ground between the 27th Division and the Outpost Line without risking confusion. Besides, General Monash states that the presence in this area of small bodies of American troops, including the wounded, made any change in the artillery schedule impossible. Starting more than a thousand yards behind the artillery barrage, the 27th Division had no chance of overtaking it, and so was without artillery protection during the entire action.

Since we are following the fortunes of American tank units, we are concerned only with the 27th Division, on the left half of the sector. The 54th Infantry Brigade, with part of the 53rd Brigade following in rear of its left flank, was to form up on a taped line before zero hour (5.50 a. m., September 29) and, assisted by tanks, was to attack under a creeping barrage of shrapnel, high explosive, and from ten to fifteen per cent smoke. Upon gaining its objective, the infantry was to exploit its success to the left flank under cover of a smoke barrage.

The British 18th Division was to attack simultaneously with the 27th Division and advance as far as the canal (to the left of the tunnel). In order to secure the left flank of the operation after the American troops passed the canal, and to extend the base of the salient, reserve troops of the 27th Division were to extend the operations to the north of Le Catelet and Guoy.

THE TANKS

The British 4th Tank Brigade was assigned to support the Australian and American troops in this attack. This brigade now consisted of the 1st and 4th Tank Battalions, B. E. F., the 4th Tank Supply Company, B. E. F., and the 301st American Tank Battalion.

The 301st Battalion was assigned to the 27th Division and was divided among the infantry regiments as follows: fifteen tanks from A Company to the 108th Infantry, ten tanks from B Company to the 105th Infantry, and fifteen tanks from C Company to the 107th Infantry. The remaining seven tanks were held in the Australian Corps reserve. One signal tank was assigned to the 301st Battalion.

On account of the importance of tank reconnaissance, we shall devote

Signal Corps Photo

Infantry following one of the 301st Battalion Tanks on September 29, 1918

considerable space to an account of what actually happened during this phase of preparation for the battle.

Airplane photographs were carefully studied, and all obstacles, trenches and enemy works discernable were noted upon a record map. During the five days devoted to reconnaissance a great deal of information was secured and transferred to this map. Layered route maps were prepared for each battalion, company, platoon and tank commander. Oblique photographs of the sector and a map showing his route, obstacles, and so on, were given to the tank commanders twenty-four hours before the attack. The tank commanders took into the action three different maps: a St. Quentin, 1:20,000 map; a Valenciennes, 1:100,000 map; and a Waincourt, 1:20,000 map with the routes, obstacles, barrage table and objectives drawn on it. The report of the action states that the indefinite starting point and the thickness of the smoke made all of this material practically useless.

Fortunately the Chief of the Tank Corps called for a report of personal experiences and we shall refer to these reports frequently in order to present a picture of what actually happened during these actions as the men in the battle area saw and described it.

The reconnaissance officer for C Company, 301st Battalion, states:

"For our hardest show on September 29, about two thousand yards of tape was laid on the night of 28-29 with the assistance of a detail from the 107th Infantry. The first fifteen hundred yards was laid with only the discomfort incidental to darkness, rough ground and a few gas shells. The last five hundred yards extended from a trench where the American troops were not sure whether they were the outposts or not, directly toward the German lines. According to infantry headquarters, tape could have been laid nearly one thousand

yards farther than we went, but it was proved later that it was well we stopped when we did, for we had laid the tape almost into the German outposts. . . . The tape laid, I went back and met the tanks and led them up and on to it. The approach march was successful but unpleasant due to heavy gas in one valley and heavy shelling at one point on [illegible]. The tanks refilled with [illegible] near infantry headquarters, while the company commander and I argued with the infantry commander whose operation order differed from ours, a blunder which contributed to the heavy infantry casualties the next day. It was when we started back with the tanks deployed, that the infantry's misinformation as to their forward positions served us badly, for before we could get back, the show opened up and caught the company and platoon commanders, their runners and myself in front of our actual line between the German machine gun fire and our own. I spent the forenoon at or near headquarters, and the rest of the day meeting returning tanks and crews, getting their reports and directing them to a new rallying point, the one originally selected proving untenable."

The official report of the action states the ground conditions were good and provided excellent going for tanks, but that information concerning one point of the ground conditions had been neglected. "Previous to the German offensive during the spring of 1918 (March) an antitank mine was laid by the British forces as a defense against German tanks. At the time of the operation on September 29, no one in the battalion (301st) was notified that the mine field was in existence. It proved disastrous to two of our tanks."

This report also states that, because the preliminary attack had failed to place the infantry on the correct starting line, the plans for the operation on the 29th were changed only to the extent that the attacking units of the 27th Division were to start at such time before zero hour as would make them cross the line of departure at zero hour. The account by General Monash makes no mention of such a change in the plans. He does say that he asked for and received additional tanks out of the Army Reserves to help the 27th Division in passing over the one thousand yards (between their position and the true starting line), which would bring them up with the artillery barrage. However, considering the rate of the barrage, which was one hundred yards in four minutes (with a fifteen-minute halt five hundred yards east of the Canal) and the distance between the position of the 27th and the barrage starting line (two hundred yards ahead of the designated infantry starting line), it is evident that the 27th Division had no chance of ever overtaking the barrage, unless their advance started well before zero. Neither the account by General Monash nor the official report of the 301st Battalion makes any mention of the extra tanks having been used.

One of the infantry regiments did not leave its position until zero hour and, according to the official report: "During the entire operation this unit was far behind its protective barrage

and never gained contact with tanks or infantry on either flank."

THE OPERATION

From zero hour until 8.00 a. m. the wind was favorable and carried the smoke of the barrage into the enemy's lines, but at 10.30 a. m. (the wind having changed) the battlefield was covered by dense smoke created by our own artillery barrage. Tanks could not see the infantry nor could the infantry see the tanks.

The tanks of the 301st Battalion had gone forward in accordance with the original plan. Evidently two of the infantry regiments, with their tanks, left their positions ahead of the zero hour, as the report states that A Company tanks cooperated with the 108th Infantry, B Company tanks followed until their tanks were knocked out; C Company tanks were not in contact with their infantry. Most of the tanks that suffered direct hits were out of action by 8.00 a. m., before the change of the wind. The thick smoke made it impossible to recognize any points on the ground. Tank commanders said that their compasses were invaluable, and those who had defective compasses report that this was a serious handicap.

The ground was suitable for tanks and there was no difficulty in crossing trenches where it was possible to see the ground. When tanks were ditched in trenches and sunken roads, it was where the smoke was so thick that it was impossible to see the ground ahead. A few of the ditched tanks were dug out with shovels; one was unditched by stretching wire cables across the two opposite spuds on each track; other badly ditched tanks were abandoned.

Nearly every tank drew concentrated artillery fire. Since direct hits were numerous, it was evident that the enemy had some system of informing his artillery of the location of the tanks. One tank commander reported an antitank fort in Le Catelet. Two tanks were reported to have been hit by b[illegible]under shells coming from the direction of Gillemont Farm. The Germans used armor-piercing bullets and antitank rifles extensively, but, although they did much damage, several tanks were able to go on after having been pierced by these bullets. Considerable concentrated artillery fire seemed to come from Richmond Quarry.

Although no difficulty was reported with the six-pounder guns, a number of crews reported that they had trouble with the Hotchkiss guns and belts. Some mechanical trouble developed during the action. One tank stripped its gears, one could not keep up its oil pressure, and several had trouble with the vacuum system; but all of these were able to return to their starting point.

Nearly all crews were hampered by the lack of pistols, and in some cases this resulted in men being captured after they had evacuated their tanks. Some tank crews used flags successfully to signal the infantry shortly after the start of the action. Pigeons were not carried. Several tank commanders could have used them to good advantage.

The crews were exhausted after three or four hours' fighting and from

the effects of the long approach march and the gas fumes.*

Nearly every man who took part in the action states that he benefited greatly from the ampules of ammonia furnished by the Medical Department. These were constantly used and should be plentifully supplied in the future.

The morale of the corps was excellent. The tank commanders led their tanks over difficult ground under heavy machine gun and artillery fire; and the crews went forward with their machine guns when they had to evacuate their tanks. Infantry commanders with whom the tanks succeeded in cooperating gave great credit to the tanks for having given much assistance in spite of the handicaps encountered.

The attack, however, was unsuccessful. At the end of the day the 30th Division had advanced to the Green Line, their objective, but, according to the schedule, this line should have been taken by 9.00 a. m. The 27th Division had a line Maquincourt Trench—Bony.

Major R. I. Sasse, the Tank Brigade Tactical Officer, states that the failure of the attack can be attributed to:

Insufficient counterbattery work.

Failure of one infantry regiment to advance at the proper time.

Failure of all infantry units to mop up in rear of the firing line.

Unfavorable wind for smoke barrage.

Failure, in some cases, of tanks to cooperate with the infantry.

No definite line of departure for tanks and infantry.

The tank casualties were: Three officers and seventeen enlisted men killed; fifteen officers and seventy men wounded; seven men missing.

General Monash states: "The first reports from my own front were in every way satisfactory, and it looked as if everything were going strictly to schedule. That morning the stream of messages pouring into my headquarters office, from special observers, from the air, from the line divisions, from the artillery and from my liaison offices with neighboring corps, exceeded in volume and import anything I had met with in my previous war experience. Those received and laid before me on that day cover thirty closely typewritten foolscap pages."

The burden of the earlier messages all pointed to the same conclusion: "The 30th Division crossed the Canal on time"; "One thousand prisoners; all going well"; "Bony captured"; "Tanks fighting around Bellicourt at 9.00 a. m."; "Bellicourt taken."

Later, at 11.10 a. m., a telegram came which caused serious anxiety: "Fighting in Bellicourt, owing to Germans having come down along the canal from the north. 5th Australian Division held up." (The 5th Australian Division was in the rear of the 30th Division.)

At 11.12 a. m. this telegram came in from the 3rd Australian Division: "We are dug in on west side of Tunnel. Americans are held up in front of us." (The 3d Division was following the 27th Division.)

General Monash came to the conclusion that, while numbers of the

* The means for exhausting the gas fumes from the engine room of these tanks were inadequate. This is a very important point in tank design.

American troops had reached the Green Line, the "mopping-up" procedure had been neglected and that the enemy had reappeared in strength behind the Americans and was holding up the advance of the two Australian divisions. He says: "On the front of the 27th American Division there had been difficulty from the start. A number of tanks allotted to that division had been put out of action, some by direct hits from artillery, others by land mines. This had given the 27th Division a bad start."

Major Sasse devotes several paragraphs to the lessons learned during this action. He states:

"Smoke protection for tanks operating in daylight was proven necessary, although smoke created by an artillery barrage when blown back on the advancing force causes disorganization, loss of direction and lack of cooperation between tanks and infantry. . . . The density of the smoke barrage, obliterating every object in the area, held up the entire advance for hours, and then when it finally cleared, both the infantry and the tanks were excellent objects for the Bosche machine guns and artillery. For instance, I found twenty dead doughboys at five-yard intervals on a skirmish line, all caught by machine gun fire from the flank, all waiting for the word to advance." Major Sasse recommends the adoption of Commander Brock's device, "which enables a smoke barrage to be created at will by means of a chemical which is introduced into the exhaust pipe, giving forth a dense white smoke."

The report goes on: "Tank commanders should not get too far ahead of their infantry. They must realize that the object of the tank is to get the infantry to its objective; overcoming opposition to the infantry, and if necessary, to go back and lead the infantry up.

"Tanks cannot clear dugouts, so infantry must do this. Throughout the front of the 27th Division, the enemy kept reappearing from dugouts which had not been mopped up after the tanks had passed them. This also applies to villages.

"Tank commanders must learn to avoid sky lines.

"Previous training should always take place between infantry and tanks before the operation. Infantry troops which have had this training will take advantage of fleeting opportunities created by the tanks.

"Compasses in tanks have proven their value. Too much stress cannot be laid upon proper training with the compass.

"The use of smoke grenades from tanks needs much practice and training before becoming practicable in action.

"The Mark V Star tank is underpowered. Bullet splash is very bad. The tank needs heavier armor around the vital parts of the machine. Increased speed and power would be a factor in overcoming antitank rifle fire.

"More light transport is required by the battalion during operation, for company and section commanders to maintain liaison with the infantry units. Battalions often have to operate with two or more divisions and the distance between the various headquarters is great.

"The Tank Corps should have their own pigeons.

"To be successful, a tank unit must have intensive training by night and by day, both with and without gas respirators."

PERSONAL EXPERIENCES

Although the action on September 29 could not be considered a complete success, the American infantry and heavy tank units did some excellent work, so let us turn to the personal experience reports for a few brief extracts in order to get a more intimate picture of the action than official reports can give.

The reconnaissance officer of the 301st Battalion made an interesting report:

"Reconnaissance of the enemy front was started at once. The American sector took in the towns of Le Catelet, Gouy, Bony, Bellecourt and several strongly fortified farms in that neighborhood. The Hindenburg Line was just opposite the Allied Front, and the tunnel of the St. Quentin Canal gave the enemy complete cover from artillery bombardments. This was the only point in this part of the line that tanks could be used to cross the canal and for this reason the Boche had fortified it as strongly as possible.

"The Hindenburg Line, the St. Quentin Canal, tunnels with slag heaps along the top, and the Escault River, all afforded formidable obstacles to tanks, and these obstacles had been wonderfully fortified with acres of wire and a great amount of artillery. The towns of Ronesoy and Haricourt were on our immediate front and were constantly shelled with H. E. and gas. Observation of the enemy territory was very poor, and only by carefully picking one's way from one shell hole to another was it possible to get far enough forward to see the towns of Le Catelet through field glasses.

"At 4.00 p. m. on September 28, word came in that, due to the failure of an attack the day before, when our infantry had failed to bring their starting line up to the line for the coming attack, we would be left from twelve hundred to fifteen hundred yards behind the barrage start line. The plan (to correct this condition) was: The infantry and tanks to leave their present start line at zero minus one hour, and fight their way up to the infantry start line by zero, the tanks not to open fire until they arrived at that line for fear of wounding our own infantry. Orders to the same effect were sent to battalion headquarters.

"When B Company tanks arrived at the headquarters of the regiment they were supporting, it was found that this regiment's orders differed from the tank orders and they were going to jump off at zero, practically twelve hundred yards behind the barrage and some time after the tanks went in.

"The tanks left the infantry front line just before sun up and were fighting as soon as they left the tape. Lieutenant Reynell stopped the wireless tank at the end of the tape and wired in that the tanks had gone over. Soon one lieutenant came back with his tank, almost in tears because he could not get his engine to run properly and had to go out of action. The wireless tank moved up toward the Hindenburg Line and set up again in a valley where they could see the tanks go over the hill beyond. Our own barrage had

started by now with the most terrific screeching overhead. In the grey dawn the infantry could be seen coming over the hill behind and it was a sight which could never be forgotten.

"The Boche laid a barrage down on the tanks almost immediately and it was a pretty sticky spot to stay in with 105's landing all over the place and machine gun bullets singing by. To add to the general discomfort the wind blew smoke from our barrage back over the tanks and some gas shells were mixed in the Boche barrage. The crew of the wireless tank could do nothing but stand still with their gas masks on and dodge shells. Visibility was impossible beyond five yards. One shell burst near the side of the tank and everyone jammed against the side of the tank. There were pieces of the shell between them and the tank when they straightened up. One of the men paced eighteen paces from the tank to the center of the crater made by this shell. Major Sasse and Lieutenant Reynell crawled out ahead of the tank to see if visibility was possible ahead. They finally lost sight of each other and had to find their way back by shouting to each other through the fog. The fog lifted for a moment and a troop of cavalry could be seen going in. I've heard since that they did not come out.

"After about two hours the smoke lifted and the wireless tank turned to the right and swung down the valley, followed by nine shells from a battery at Le Catelet, all about fifty yards short. Several tanks could be seen in flames. The wireless tank set up behind a hedge and sent in another message. One of the British soldiers set up a fire and cooked a wonderful meal with food taken from haversacks found on the field. The first meal in eighteen hours.

"The Hindenburg Line had been taken, but several officers and men had 'gone west' and that put a great damper on any jubilation. Captain Vernay had been killed leading his tanks."

The personal experience reports of almost any tank commander in this action draws a most interesting picture of tank warfare, but the following report by Lieutenant De Young shows the picture of an action that you can hear, see and feel, as though it were your own crowded hour:

"If you had been in the 301st Heavy Battalion of the American Tank Corps early in the morning of September 29, 1918, you would have found yourself lying outside the small town of Ronssoy, which is halfway between Cambrai and St. Quentin. You would have heard the shots of the magnificent barrage laid down by the British artillery against one of the strongest positions of the Hindenburg Line. As zero hour approached, you had the words of your commanding general still ringing in your ears: 'Show me, and I'll show you,' he had said in his address at Wareham, and you were out to gain the leadership of a platoon.

"You are under fire, a perfect steel rain. You see the lads of the grand old 27th dropping around you, then you are beyond them! There! Your corporal on the port gun has sent a nest of three machine guns and their crews to hell. Hurry! See that venemous trench mortar about to put you out! Bravo! A perfect shot explodes squarely beneath the gun—

enough. Machine gun bullets spit viciously against your look-out port—one strikes weakly against your tin hat, and you are thankful for the trusty plates of the old bus. You look to the rear. A helmet on a rifle calls for you on the left. Tapping the driver on the left shoulder, your tank swings to the left and crawls over to where the Boche are holding up your supporting infantry. It is a short job, but that long unwieldy weapon, left by that last Boche to fall, was the enemy of all land warships, the antitank rifle.

"But your good luck fails you for a moment. A glance through the dusky, petrol-saturated atmosphere of your tank shows you three lads lying in a ghastly heap across the driving shaft cover. For a moment your heart leaps into your mouth. Jumping down and seizing the medical kit from the shelf, you apply the spirits of ammonia with complete success, only to fall before the gas fumes yourself. It is an hour before your recovery is accomplished, during which time the driver has taken the tank to the rear of the doughboys. An order from the battalion arrives: 'Join the 9th Battalion on your left.' Consulting your map and taking the compass bearings on a German strongpoint, you roll off. Your head is still unsteady from the gas. You glance at the conflict around you and see a gigantic sergeant wearing the khaki of the old U. S. thrust his bayonet through a green-gray Hun. . . . Then you start the last great adventure of your day, for there on your right sat a double battery of Boche heavy artillery! They cannot turn in time—you are saved again, as a few well-directed case shots settle them."

Second Lieutenant C. J. Hart and his crew had the exciting experience of repairing the track of their tank under fire after it had been broken by a shell from a German field gun.

". . . Getting the tanks equipped was only a matter of a few days, for the men were anxious to give Jerry a start on his way to the Rhine. . . . When the order came to move, the 'Bear Cat' crew was in readiness. . . . Zero hour at last and over the top, and the first thing the tanks ran into was a number of machine gun nests. It did not take them long to clean out these nests and, moving forward, they ran into another great cluster. They were having considerable trouble when Lieutenant Webb came to their assistance. They soon had these Jerries on the run and moved forward with Lieutenant Webb's tank on the left. Private Rowland passed the word that Captain Vernay was outside and in rear of the tank. A few words were passed between the tank commander and the captain, and, as all was O. K., Captain Vernay started toward Lieutenant Webb's tank. Just then a shell came over, and our beloved captain was no more. Still progressing, they saw an immense barbed wire entanglement ahead and knew at last that they had reached the famous Hindenburg Line. Here they encountered their first antitank rifle; a shell from it pierced the sponson and wounded Private Williams in the hip and fragments from another shell put Private Pritchard out of action. An antitank gun, getting direct observation, broke a plate out of our starboard track, and

the presence of mind of Sergeant-Driver Albaugh in stopping the tank at once saved his crew from disaster. As the crew were putting another plate in the track, Sergeant Connelly and Corporal Osmond rushed a machine gun nest which was holding up the infantry, and silenced it. The infantry advanced. As most of the tank crew were gassed and wounded, they returned to the rallying point."

Captain Clarke's description of the approach march and the action is both interesting and instructive:

"The approach marches are all alike, some worse than others, but this first one will never be forgotten. Up ahead, the reconnaissance officers were crawling out in front of the infantry's lines, laying tape that serves as a sure guide over the last and most important one thousand yards or so. When we were halfway there (to the infantry lines) an orderly brought word that Lieutenant McCloskey was badly wounded while laying tape and his sergeant assistant killed. A bit further on a bad pocket of gas and smoke seriously threatened further progress, but the tanks were led through somehow—the officers frequently removing their masks in order to see, and in some cases getting down on their hands and knees, coughing and gagging, actually finding their way through the darkness by feeling the tracks made in the ground by the track plates of the preceding tank.

"Company C met its reconnaissance officer at the beginning of the tape and arrived at the infantry line without a casualty. It was later found that Lieutenant Woods had been so thorough he had laid his tape out among the advanced German machine gun posts.

"A few final words, the tanks deployed in line and were off—and at the same moment our barrage opened, followed in a few minutes by a counter-barrage laid down at the start line by the Boche. A hurricane of shells, the incessant whine of thousands of machine gun bullets, and the American heavy tanks had gone over the top.

"Lieutenant Rosborough, commanding a platoon, jumped into Lieutenant Potter's tank with his two orderlies. This tank drove straight for its objective until, while knocking out machine guns in the outposts of the Hindenburg Line, it received a direct hit, which killed six of the crew and seriously wounded all of the other occupants. Hastily evacuating under heavy fire from close by, the survivors took up a position with their Hotchkiss guns in a nearby shell hole. In this scant shelter, Lieutenant Rosborough dressed as well as possible the wounds of the others. Then although wounded and burned, he made the precarious trip back to our infantry to try to get help. Sergeant Frank J. Williams, his orderly, also badly wounded, insisted on staying with Lieutenant Potter, who was in a serious condition. Eventually help reached them, and they were removed to the hospital, but Lieutenant Rosborough was taken prisoner while crawling along toward our lines. While being conducted to the rear through a trench, he pushed over one of his guards and hit the other one in the eye, scrambled over the side of the trench and got away. After hiding that night and the next day under his derelict tank, he suc-

ceeded in working his way back to a dressing station.

"Lieutenant McKay, twice wounded at his post, was killed while trying to get out of his tank to be out of the way. His crew evacuated upon receiving a direct hit, several badly wounded; they had stood to their guns as long as the tank would run.

"Lieutenant O'Kane's tank received a hit that wrecked it completely, fatally wounding him and one of the crew; other tanks shared the same fate, for the Boche had direct observation and concentrated his 77's upon the tanks.

"Lieutenant Dunning's tank in some way missed being hit for a long time, while it went on and on, crossing trench after trench through machine guns and wire until far behind the German lines it was knocked out. The crew hid near by until after dark and then started an almost hopeless attempt to get back. Seven were taken prisoners, but Lieutenant Dunning and Sergeant Rosenhagen, after hours of patient, agonizing crawling, and waiting, reached the British lines and by the next night had reported to the battalion. They were sick from gas and exposure, exhausted, soaked and torn to ribbons by wire, but related their story and turned in their valuable information."

The 1927 C. M. T. C.

PERHAPS the Arabs ". . . fold their tents . . . and as silently steal away," but the C. M. T. C. candidates do things quite differently. The final contingent has left (not folded) its tents and, with a good deal of noise, trooped away from the last of the 1927 Citizens' Military Training Camps.

There were fifty-two camps in thirty-three States this year, and one in Porto Rico.

Of the fifty-seven thousand and some applicants for admission to the camps, thirty-nine thousand six hundred and seventy-six were accepted and trained. It is interesting to note that the attendance at the camps has grown steadily from about ten thousand in 1921 to the record number this year.

The health and safety of the personnel in camp were generally excellent. They were really remarkable when one stops to realize that nearly forty thousand young men were moved to camps, brought together for a month's outdoor life entirely new to most of them, and returned to their homes.

The camps were not all play, and a number of candidates who completed the Senior, or Blue Course, will be commissioned second lieutenants in the Organized Reserves.

Qualifying Non-Riflemen

Captain Elbridge Colby, Infantry

LAST November two infantry officers took over the training of a brigade headquarters company, organized to maintain communications, furnish mounts, trucks, wagons, and carts for transportation, and to conduct the necessary clerical staff work. Only four members of the small command were armed with the rifle, though the others were authorized but not required to fire that weapon, and it was only with it that they could qualify for shooting pay.

In 1925 the organization had qualified forty-six and eight-tenths per cent, in 1926 only fifty-three per cent. In the 1927 season just closed the company qualified ninety-two and eight-tenths per cent on the difficult course "C," with an average score of two hundred and three out of the possible two hundred and fifty, bettering the 1926 average by twenty-two points. With considerably more than half of the organization on special duty, and with the personnel unaccustomed to the "feel" of the rifle, the men felt that it was a distinct achievement to average forty and six-tenths points per range. The average of two hundred and three per man out of two hundred and fifty at Course "C" is therefore really more than equivalent to the corresponding two hundred and eighty-four out of three hundred and fifty at Course "A" which strict percentage calculations would indicate.

The manner in which this result was accomplished ought to be of interest to other organizations. There is a story of an old colleague approaching an officer who is an authority on shooting and asking about this "new system" for teaching rifle marksmanship. According to report, the latter displayed a now famous pamphlet. The friend looked it over and is said to have exclaimed: "H——, this isn't any system. This is just plain d—— hard work!" Such, to some extent, is the manner in which Headquarters Company, —— Brigade, broke all its previous records at rifle marksmanship. The spirit of the organization is exceptionally high. A feeling exists that that unit can do anything it sets out to do. Such a spirit has only to be led into the desired channels to accomplish results.

By devious methods, sufficient copies of the appropriate training regulation were secured so that each man might have one. They were told that they would follow exactly and thoroughly the procedure prescribed in that pamphlet. They were informed that the secret of success was in the preparatory exercises, the sighting and aiming exercises, the trigger squeeze exercises, the bolt manipulation and rapid fire exercises, the holding of the breath, the calling of the shot and the plotting of each shot. It was impressed upon them that long experience had proved, as the regulations say, that "rifle firing is a mechanical operation which anyone fit to be a soldier can do well if properly instructed." They were made to realize that the reputation of the organization was at stake. They were stimu-

lated by the offering of prizes and by full information as to qualification pay. A special poster in the barracks said:

EXPERT RIFLEMAN,
$5.00 per month.
SHARPSHOOTER,
$3.00 per month.

In order to secure intelligent, rather than merely obedient, cooperation, another poster told them:

SUCCESSFUL PREPARATION

Physical Training

Manual of Arms
Butts Manual
Bolt Manipulation
Trigger Squeeze Exercise
Rapid Fire Exercise

Technical Training

Nomenclature
The Rear Sight
The Score Book
Sling Adjustment
Precautions:
- Loading
- Open Bolts
- Inspections
- Blackened Sights
- Cleaning

Visual Training

Sighting Exercise
Aiming Exercise
Triangles—Short Range
Triangles—Long Range
Call Your Shot

This whole subject of posters was a very important element in the accomplishment of the satisfactory results. The poster just mentioned set forth three types of training, but did not mention the fourth type, the promotion of morale. The company officers prepared 28 vari-colored posters in the best chart traditions of Fort Benning. Hung in the day room and squad rooms, these posters impressed daily on the members of the organization the importance of a good record, the interest and efforts of their company officers, and, by dint of much repetition, a number of essential facts. For instance, on every poster there appeared either two inches square in the corner or twelve inches square in the center, a picture in black and white of rear sight, front sight and bull's-eye in their correct relative position when the rifle is properly aimed. In these drawings the edges of the peep sight and of the front sight were slightly roughed, while the circumference of the bull's-eye was left sharp, thus emphasizing at every turn the fact that the firer must focus his eye on the "bull." Wherever the soldier looked about the barracks, he saw the sights correctly aligned. That alignment became a habit with him. The results bore out psychological soundness of the doctrine of repetition.

Several of the posters said: "Focus Your Eye on the Bull"—"Call Your Shot"—"Plot Down Every Shot"—"Hold Your Breath"—"Squeeze the Trigger" — "Don't Jerk — Squ-e-e-ze." One set showed how a pencil end at fifty feet equaled a bull's eye at five hundred and fifty-five yards. One set showed marking discs on targets and appropriate entries in score books, with the injunction: "Plot Down Every Shot." Another set showed two targets, one marked with a red flag and the other with a white disc, with appropriate wording to indicate the reasons for these scores, e. g., "When your aim is wrong, you get: (a red flag)." "Focus your eye on the bull, and get: (a white disc)." Beneath correctly aligned sights and beneath a white disc marking a "Five" on a target, appeared the words: "Rifle Firing is a Mechanical Operation which Anyone Fit to be a Soldier Can Do Well." Other posters were pure morale boosters. A chart of three columns showed per-

centages of qualifications for the two previous years and a prospective one hundred per cent for the current year. Another showed that whole regiments of Infantry have qualified ninety-five, ninety-eight and one hundred per cent, and said: "We Can." Others were frankly humorous. But on each there appeared a representation of the correctly aligned sights, enforcing perfection on the eye and the mind by daily observation.

To make twenty-eight colored posters, fifteen by twenty-two inches, is no small task. But with an organization which was unfamiliar with the rifle and somewhat inclined to feel that marksmanship was beyond its ken, special efforts were needed to bolster morale and to carry into squad room and day room the repeated lessons of the training field. Never, perhaps, has an Infantry School monograph map and chart-making set been put to better use.

In two particulars, there were variations from the method prescribed by Training Regulations. Both were necessary on account of the special character and circumstances of the company. With eight horses and eleven mules to be groomed and fed daily, with a headquarters office to be kept going, it was not possible to suspend all other work but rifle training. Consequently the preliminary exercises and the instruction practice were not conducted in an intensive period, as the book says. Friday afternoon was clean-up time for inspection. Wednesday afternoon was a garrison holiday. Mornings were taken up with normal work. That left only three afternoons a week. For five weeks the company spent three afternoons a week in preliminary and preparatory exercises. The dispersion of time was a handicap, but one which had to be accepted.

Fundamentally, there was the basic handicap that the rifle was strange to these men. Not armed with that weapon, the company was unacquainted with its weight and balance. The men had no constant companionship with the old Springfield, such as a soldier in a rifle company has. The "heft" and "feel" of it were novel. In order to overcome this strangeness, the company was transformed into a rifle company for two months prior to the commencement of record practice. Every day there was a half hour of work in the manual of arms. Clumsiness with the piece disappeared when it was handled daily. Then drill in a few of the simpler movements of Butt's Manual fixed the habit of handling the rifle easily. These supplementary steps might not be necessary with a rifle company, but with a pistol-carrying, typewriter-punching, telephone-cranking outfit like a brigade headquarters company, they helped a lot.

The old, old story of visual, physical and technical training was carried out. The manual was adhered to, with all its "plain d—— hard work." The special features of the training were the daily drills with the rifle, the psychological use of posters for squad room and day room repetition of the lessons of the drill field, the emphasis on a "rifle morale" without mentioning it to the company, and a constant reiteration of the idea that

rifle marksmanship is the proof of a soldier—the common, popular idea that everyone thinks that a soldier is a man who can shoot. These things, and especially the use of the charts and posters, are believed to have been what made it possible for the company to qualify, four experts, seven sharpshooters and fifteen marksmen out of twenty-eight pistol toters.

The lowest score for 1927 was sixty points above the lowest for 1926.

Thirteen men who had fired Course "C" with the company the previous year raised the average for their group from thirty-five and eight-tenths points per range in 1926 to forty-one and eight-tenths points per range in 1927. Eleven men newly enlisted into the organization, two within six months and seven within four months, fired for an average of thirty-nine and eight-tenths points per range. Of four transfers from other companies, three who had previously fired Course "A" for an average of thirty-seven and seven-tenths per range, now averaged forty-three and two-tenths per range on the much more difficult Course "C." The other "transfer" and a single recruit fell down badly and failed to qualify. The whole record shows that thorough preliminary training, supplemented by special efforts, brings results.

The faithful following of "Rifle Marksmanship" was the chief cause of this successful target season. Overcoming lack of familiarity with the "heft" and "feel" of the rifle was a psychological as well as a physical problem. Marksmanship morale and the will to do resulted from appeals to individual pride, from strong organization spirit, and from the use of posters and charts. The posters were also used in applying the psychological doctrine of repetition. Even in minor details, psychology has applied. The men shot under campaign hats and, for record, with an afternoon sun at their backs. A thing must be learned the way it is to be done. Even in the sighting and aiming exercises and the triangle-making in April, the men kept as much as possible with backs to the sun and wore campaign hats instead of the caps or fatigue hats the rest of the garrison was wearing. The psychological idea of incentive was present, with prizes in goodly number for the top scores, for the best improvement over previous scores, and the like.

The solution of such special difficulties in accordance with the sound principles which run through every line of "Rifle Marksmanship" was the extra item that qualified a small company with a bad previous record and relative ignorance of the weight and ways of the rifle. If these suggestions prove of value to other company commanders, who—like all of us—have multitudes of men on "special duty," they are worth the writing.

Notes from the Chief of Infantry

COMMISSIONED PERSONNEL, OFFICE OF THE CHIEF OF INFANTRY

CHIEF OF INFANTRY—Major General ROBERT H. ALLEN
EXECUTIVE—Colonel WILLEY HOWELL

Section I—Personnel

COLONEL J. J. TOFFEY.
LIEUT. COL. L. D. GASSER.
*LT. COL. HERMAN GLADE.
MAJOR R. E. O'BRIEN.
MAJOR P. W. BAADE.
MAJOR P. D. PARKINSON

Section II—Intelligence

MAJOR T. B. CATRON.
MAJOR S. J. CHAMBERLIN.

Section III—Training and Inspection

COLONEL A. J. MACNAB.
MAJOR J. D. BURNETT.
MAJOR B. MAGRUDER.
MAJOR C. H. BONESTEEL.

Section IV—Arms, Equipment and Finance

LIEUT. COL. F. G. KELLOND.
MAJOR T. LAWRENCE.

Section V—Mobilization and Organization

MAJOR M. H. THOMLINSON.
MAJOR E. M. WILSON.

*Colonel Glade is temporarily attached for duty.

Congratulations to the Infantry Team

The Chief of Infantry feels sure that he speaks for the whole Infantry in congratulating the Infantry Team on its remarkable victory in the National Team Match at Camp Perry. In coming from behind to win, as it did, the team accomplished what looked like the impossible. This is the spirit that makes the Infantry the Queen of Battles.

Where the Infantry Gets Its Officers

The following table shows by grade the sources of entry into the Army of officers now commissioned in the Infantry:

	U.S.M.A.	Army	Civilian	Total
Col.	66	27	103	196
Lt. Col. ...	24	62	83	169
Maj.	252	67	185	504
Capt.	59	79	1296	1434
1st Lt.	222	18	599	839
2d Lt.	407	7	137	551
Total	1030	260	2403	3693
Phil. Scouts.	4	35	12	51

Shortly before the World War, approximately forty-eight per cent of the officers of the Army had been commissioned from the United States Military Academy, and fifty-two per cent from other sources. The table shows the comparatively large number who were commissioned from the Army and from civil life during the general period of the World War.

The Increasing Efficiency of Infantry Officers

THE Chief of Infantry has recently had made an interesting compilation that shows the increasing and relative efficiency of Infantry officers.

The following table shows how the efficiency is increasing. The figures represent the average efficiency of the officers in each grade, based on the following arbitrary scale: A rating of "superior" counts 100; "above average," 80; "average," 60; "below average," 40.

Grade*	Oct. 1921	F. Y. 1925	F. Y. 1926	F. Y. 1927
Col.	70.2	73.5	74.8	75.6
Lt. Col.....	65.8	70.9	72.3	74.1
Maj.	66.6	69.8	71.07	72.1
Capt.	62	65.09	66.4	67.1
1st Lt.....	60.7	63.6	65.5	65.8
2d Lt.....	....	62.6	61.9	61.6
All officers.	65.1	67.5	68.66	69.4

The increasing efficiency is the consequence of various causes, the more important of which are probably the greatly improved morale of Infantry officers as a whole, the growing experience of officers and particularly of the large number who entered the service during and immediately after the World War, and the service schools, but particularly the Infantry School. Beyond question, the greatest single factor today in the increasing efficiency and professional fitness of Infantry officers is the Infantry School and the continued betterment and widening influence of its instruction. Worthy of note are the recent words of the Chief of Infantry: "The Infantry has never before in its history had such a fine corps of officers."

An exception to the general rule occurs among the second lieutenants. This is not taken to indicate that these officers are not keeping step professionally with the officers of the higher grades, but rather that they are unconsciously compared, on their efficiency reports, with officers of higher grade instead of than among themselves.

Water Supply for Troops

ONE of the most important items of supply for troops in the theater of operations is water for organization kitchens and for filling individual canteens. Appropriate vehicles for hauling this water are, therefore, vitally necessary.

During the World War each company had a one hundred and fifty-gallon water cart. This vehicle was not satisfactory. Being a two-wheeled arrangement, its load could not be balanced and it caused considerable injury to animals. In 1922 the manufacture of this cart was discontinued and orders were given that, when the supply should become exhausted, escort wagons equipped with ten-gallon milk cans should be substituted at the rate of one wagon for two carts. The

* The efficiency reports to include the end of each fiscal year are revised during the following fiscal year and pertain to the latter year.

new equipment tables will not provide for water carts.

The Infantry Board has made a study of the water question. It believes that Infantry troops operating in arid country will require about one and one-fourth gallons of water per man per day. For a war-strength regiment it would, therefore, be necessary to haul about four thousand gallons of water a day for the use of the kitchens and for filling each canteen once. To fill all of the canteens of a regiment would take eight hundred gallons of water.

It is the opinion of the Chief of Infantry that the number of vehicles for hauling water should be the minimum needed to provide water for filling all canteens once. Therefore, a vehicle of this kind should have as great carrying capacity as practicable.

There is now under development a four-wheel tank vehicle with a capacity of two-hundred gallons. If four of these vehicles were assigned to a war-strength infantry regiment operating where the water supply is difficult, there should be plenty of water at all times. For use in the field, a vehicle of this kind should be either motor driven or of the trailer type. In either case, it should be possible to fill the tank rapidly at the source of supply and to fill a large number of canteens at one time. These vehicles should be issued to troops only when there is need for them.

Pending development of a satisfactory water vehicle and as an emergency measure, organizations should carry ten-gallon milk cans at the rate of one to forty men.

Tables of Organization

NEW war-strength tables of organization for tank units will probably soon follow the new war-strength tables for units of the infantry brigade that appeared recently.

The issuance of new war-strength tables at this time may cause some question, especially in view of the vast amount of labor involved in bringing textbooks and the like up to date. However, a study of the present tables of organization and tables of equipment indicated that no satisfactory course was open other than an immediate revision.

The principle of the new tables are a return to the war organization for machine gun companies (*i. e.* with three platoons), and the reduction of transportation within the regiment, which includes the elimination of ration and water carts and the reduction of ammunition and ration allowances.

The revision of the peace-time tables of organization for Infantry is also in prospect. Perhaps the most difficult problem to solve in preparing new tables is to determine some satisfactory system for meeting not only fluctuations in total strength, but also periodic changes in the allotment of noncommissioned officers and specialists. It is hoped that the prospective tables will include a satisfactory solution of this problem.

Editorial Comment

Associate Editor at Benning

OFF and on, in the past, the question of having an associate editor of the INFANTRY JOURNAL at the Infantry School has arisen. Now we are glad to say this is no longer a question, but an accomplished fact.

Since the Infantry School is the Infantry center, it is entirely fitting that there should be a representative of the Association there. It seems wholly logical, also, that the Infantry center can and should furnish much valuable and interesting matter for publication in the INFANTRY JOURNAL.

We are, therefore, glad to announce the designation of Captain James E. Wharton as the INFANTRY JOURNAL'S associate editor and representative at Fort Benning.

We hope that officers stationed at Benning and in the vicinity will take advantage of Captain Wharton's presence there to obtain the service that the Association is anxious to give its members, and hardly less important, to submit manuscripts for publication in the JOURNAL. Captain Wharton will have full information about the Association's policies and activities and will be glad to act for the Association in doing anything that it can for its members.

Major General William Weigel

FOR forty-four years Major General William Weigel has served his country. In 1887 the walls of West Point probably echoed his shout "Never Again!" to let all who might hear know that he had just graduated from the Military Academy. On August 25 of this year, he might once more have used those words to signal his retirement from active military service.

General Weigel's long career has been full of accomplishment and interest. The list of incidents is too long to chronicle here, including, as it does, much varied peace-time service, participation in Indian campaigns, the Spanish-American War, the Philippine Insurrection, and command of the 56th Infantry Brigade and the 88th Division in the World War.

Hope of careers and success such as General Weigel's are what attract fine young Americans to the Army.

Army Children and Their Schooling

ARMY children have always been under a disadvantage as to schooling. Sometimes there is a good school at or near their parents' station, but more often, perhaps, there is not. Add to this that frequent change from school to school is not desirable, and the situation is still worse. If, however, Army parents could always be sure that the necessary changes are from one good school to another that is about as good and similarly run, they would feel that their children had a better chance of being as well educated as those of civilians.

The children's school at Fort Benning, to judge by the official announcement, is well organized and should be a good one. It includes a grade school and a kindergarten class. For the grade school there is a tuition fee of four dollars and twenty cents per month for officers' and civilians' children, three dollars per month for warrant officers' children, and fifty cents per month for enlisted men's children; for the kindergarten class the fee is three dollars per month for all children. Chaplain Thomas L. McKenna, who is in charge of the school, asks for parent-teacher cooperation, suggestions and constructive criticism.

There are other schools at other posts, perhaps as well organized as the one at Benning. With careful planning and supervision there could be such a school at every post, and they could all be good. If such there were, Army people could contemplate with much more equanimity than is now the case the problem of educating their children.

An Interesting Personality

LAST month we noted briefly that Lieutenant Colonel LeRoy F. Smith, General Staff (Infantry Reserve), is now conducting the Reserve Officers' Department. It may be of interest to some of our readers, particularly to Reserve officers, to know something about Colonel Smith.

Colonel Smith is a resident of Los Angeles, California. He served with distinction as a battalion commander in the United States Army during the World War. A busy business man, yet he has found time to graduate with commendable honors from the Army's Command and General Staff School at Fort Leavenworth, Kansas, and to complete a twice extended tour of duty on the War Department General Staff at Washington, D. C. His platform work has won him more than passing renown from coast to coast.

Colonel Smith's varied and colorful experience gives him an unusual insight into human affairs. He has taught school. He is a graduate student of mental diseases, and as a hospital owner and superintendent he speaks the language of the physician and the surgeon. As a young man, he built houses in California and butchered beeves in Ohio. He was a brakeman on one railroad and a restaurant waiter for another. He has been on an important committee of the Los Angeles Chamber of Commerce since 1919.

As a writer, Colonel Smith's diction and logic are described by competent critics as "positively scintillating," while his store of knowledge of his subject has caused him to be recognized not only in his own country but also in Europe, where several of his published articles are in circulation.

Reviews and Discussion

Swivel-Chair Strategy

An Open Letter to Mr. Arthur Brisbane

Captain George Fielding Eliot, Military Intelligence Division Reserve, United States Army

FOR some years, Mr. Brisbane, you have run up and down in the columns bearing your name throughout the country, crying insistently that the next war will be an affair, entirely of aircraft; that armies and navies are out of date, and that money spent on them is worse than wasted.

You are, admittedly, a journalist of eminence and distinction, but certainly not a professional soldier or sailor. Yet you have no hesitancy in thus setting your opinion—that of a layman, an outsider, not even an amateur in the military art; the opinion of a man who has never heard a shot fired in earnest, who knows from personal experience nothing of war—against the life's work of officers who have grown gray in the service of their country, who every day of their lives work and study and practice the art and science of war—the most complicated and difficult art and science known to man!

Frankly, Mr. Brisbane, how do you get that way?

If you had been exposed to smallpox, thought you were showing signs of having contracted the disease, but were not sure, would you attempt to diagnose your own symptoms, and rest content—risk your life—on the result? Hardly! You'd consult a physician. Why? Because it is a physician's business, based on training, education and experience, to be able to advise you in such matters, and to take the necessary measures to prevent you from contracting the disease, or to cure you if you do contract it.

If you were involved in intricate litigation, in which matters of great importance to you were at stake, would you stand up in court, facing an array of eminent counsel summoned by your opponent, and attempt to conduct your own case through the tortuous mazes of the law? Certainly not! You'd get a lawyer of your own. That's a lawyer's job; again based on training, education and experience.

The national defense concerns not just your own life, your own property, but the lives and property of all your fellow-Americans. Why, then, are you not content to leave its problems to the care of those men whose profession it is to deal with such problems and who have spent their lives in the study

thereof? How can you, from the comfortable security of your office chair, attempt to teach the art of war to men who have *known* war, who have made the decisions upon which hung the fates of armies and set their own lives upon the cast, who have led forward their regiments to battle under the pale hell-glare of the shell bursts that you have never seen?

It is an American failing that the layman thinks that, in the profession of arms, he is at least as competent as the professional; that training, education and experience must give way to uninformed or prejudiced opinion. No red-blooded, one hundred per cent American would admit that he is not fully competent to direct the affairs of the War or the Navy Department. The idea that no special professional training is required for the command of troops or fleets is apparently ingrained in American minds from birth. It has resulted in Congressional crippling of our land and sea forces, in interminable civilian meddling and interference—not in broad matters of policy, but in petty details; it has resulted in terrible and criminally unnecessary losses of lives, of money and of battles. All because of military megalomania. It's an American disease.

We take a youngster, fresh from high school, send him to West Point for four years, during which time, under the strictest discipline, he receives a first-class military education. Upon graduation he knows more of the theory, at least, of the military art than any civilian can ever hope to know. Yet does he at once spring to the command of armies? Hardly. He becomes a second lieutenant, takes command of a platoon—and serves another and more severe apprenticeship under (if he is a lucky youngster) a stern company commander. In the course of time he passes through the service school of his arm, taking what is called the company's commander's course, and then for the field officer's course, with intervals in between of service with troops and of detached service of various kinds. At last, if he shows promise, after he has attained the grade of major, he is sent for a year's grilling instruction to the Command and General Staff School at Fort Leavenworth. Here he is taught by applicatory methods the art of troop leading, the command of large units of all arms, the principles of strategy and their application to the ever-changing conditions of war. And then, if again he is lucky, he may go to the Army War College at Washington for a final course. All through his career he has opportunity, in training his men and in maneuvers such as those held in Texas and New England this year, to apply in practice what he has learned in principle. Finally, upon the recommendation of the Secretary of War and the Chief of Staff, based upon careful examination of his record and abilities, our youngster—now a grizzled colonel—is selected by the President for promotion to the rank of brigadier general; a silver star twinkles out upon his khaki shoulder strap; he is a general officer of the Army!

It has been a long, hard grind—hard work, physical and mental, hard study of a more diverse variety of subjects than any other profession demands. But at last he has arrived!

Is he, then, regarded as an authority in his own chosen line?

Yes—by those within that profession, who know him, have worked and studied and perhaps fought with and under him. By the remainder of his fellow-citizens, not at all.

They turn to your column, Mr. Brisbane, and read such ridiculous statements as this: "A hostile European nation could send one thousand or two thousand bomb-dropping air machines westward across the Atlantic today, and within forty-eight hours New York, Boston and Washington could be wiped out."!!! (The exclamation points are mine.)

Whereupon they groan or swear, according to their temperaments, and perhaps sit down and write a letter to their Congressman—if they happen to remember his name—demanding what in the world the War and Navy Departments are about? Don't they realize the danger? Of course, there's danger—wasn't it in the paper? Let's get rid of all those old fogy generals and admirals who don't keep up with the march of modern progress—editorially—and get some new, red blood. Let's recognize new ideas!

New ideas!

General Blank, if you would ask him, would tell you that he has spent his life studying new ideas. New ideas about training, about cooperation between the various arms, about weapons of all kinds—even about uniforms! Take an up-to-date copy of the Training Regulations of any arm, and note how many changes have been pasted into it during the last year—all the patient, careful work of the much-derided General Staff. The Army's whole system of instruction is based on the search for new ideas and their prompt recognition, examination, and, if sound, adoption.

Of course, the airplane has made changes in tactics, in organization, even in the application of the principles of strategy—though the principles themselves remain unchanged. The introduction of firearms made a greater change—and yet, in Alexander's day the infantry was the principal arm, Cæsar relied for decisive success upon the infantry of his legions, the English infantry at Crécy broke the armored chivalry of France. And today the modern doughboy, armed with weapons with which a platoon could utterly destroy a whole Roman legion, is still the decisive military arm, the one arm that can move over any ground, under any conditions of weather or light, that can drive back an enemy by physical force and contact, and that can *occupy* and *hold* a position. The airplane has done much to make lighter the infantry's task, but it hasn't changed these fundamental characteristics of the basic arm; it hasn't altered the principle that the only reason for the existence of the other arms is to contribute to the success of the infantry, which alone can gain a final decision and impose the will of a commander upon a hostile army. The whole history of war is behind this statement to give it point and force. Theoretical discussion won't change the facts.

But the adjustments in military methods which the airplane has made necessary, the extension of military operations which the airplane has made possible, are the continual subject of study and experiment by the General Staff—study and experiment

of which the recent maneuvers were an example. They are not unmindful of their duty to their country, the men on the General Staff—but they conceive that their duty lies in the careful and painstaking preparation of a well-balanced military policy and a military machine capable of carrying that policy into effect, complete in *all* its parts and constructed by the skilled hand of experience, modified from time to time by the incorporation of new ideas of *proven* value.

New ideas!

Let's go across the corridor to the Navy Department and ask the General's old comrade, Admiral Dash, about this new idea thing.

The Admiral smiles—a bit wearily, perhaps. Oh, yes—the Navy has seen a lot of new ideas in his day. The Ammen ram is one—an armored, turtle-backed ship with a long, sharp beak, which was to rush at and sink a battleship by ramming. It was going to revolutionize naval warfare; the enthusiasts proved it—on paper. We spent a lot of money and built one ship of this type. They broke her up for old iron at the Norfolk Navy Yard some time back. The automobile torpedo was a different matter. It was going to revolutionize warfare, too; and it certainly made numerous changes and brought out new types of ships and new ideas in tactics. In its day the same claim was made for it that is now being made for the airplane—that it made the battleship obsolete. Why build a ten-million-dollar battleship (they could build a battleship for that sum then) when she could be sent to the bottom by a $200,000 torpedo-boat? Well, the answer was that the battleship could keep the sea *in all weathers* and could, without refueling, cruise long distances to seek out and destroy the enemy's fleet—the one end and object of all naval strategy. The torpedo-boat could do neither. Moreover, while a battleship could carry sufficient shell for a protracted engagement, a torpedo-boat in those days could carry only two or three torpedoes, and when they were fired, away she had to go to her base for more. Add to this that even now a torpedo, with its complicated machinery, is not the most reliable of weapons, and you can easily see why the naval powers continued to build battleships and ceased to build torpedo-boats. Destroyers are a different matter, and are intended for quite other purposes. They do, of course, attack battleships sometimes with their torpedoes; but for this purpose they are weapons of opportunity. It isn't their regular work, it's just one of their multifarious duties; and no one today dreams of saying that the destroyer has made the battleship obsolete. The torpedo has come to stay—but it has found its own proper field of action; it hasn't taken over the battleship's job.

And now we have the airplane.

The Admiral smiles rather grimly.

"Don't forget," he says, "that no one has ever shown that airplane bombs can sink a modern battleship, with her crew aboard, her pumps working and her system of water-tight compartments and doors in proper condition and with trained men to attend to their operation. Personally I don't believe it; and moreover, the favorite simile of the single battleship against 100 or 200 or 1000 planes is all bunk. Battleships, in war—

not the movies, but war—don't cruise about singly. They move in squadrons and fleets, attended by destroyers and cruisers, all armed with antiaircraft guns; they have their own aircraft, too, carried on specially designed ships. And they don't attack land fortifications. Their objective is the enemy's fleet. The torpedo didn't make the battleship obsolete; neither has the airplane. Each has its proper —and auxiliary—place in naval war."

Does anyone suppose that the Admiral wouldn't do everything in his power to develop and make more useful *any* naval weapon? That's his work—and it isn't his work to permit one weapon to overshadow the others, or to step out of its proper place in the team.

Teamwork! That's the answer—the whole secret of modern war.

The infantry must work with the artillery and the air corps; the battleship must work with the cruiser, the destroyer, the submarine and the aircraft carrier—all to the same end, the defeat of the enemy and the destruction or immobilization of his armed forces. Staffs of trained officers are necessary to produce this coordination, this all-essential teamwork. And we can't have teamwork if each arm of the service is going to adopt the idea that it is all-important, must be independent of the others and have special treatment and ruffles on its cuffs.

But—*could* those one thousand or two thousand aircraft cross the Atlantic and destroy New York, Boston and Washington? Of course, they could—it was in the paper—but let's go back to General Blank and humor the old fogy by asking him.

He shakes his head.

"The airplane," he tells us, "is a very useful military weapon—within its limitations. These limitations are of three kinds—range, carrying capacity and ability to act under varying conditions of weather. The airplane flights that have actually been carried out across the Atlantic were specially planned and prepared for; favorable weather was awaited; and the planes carried fuel almost to the exclusion of everything else. No one has yet produced a plane that will cross the Atlantic with a useful military load. That problem of military load is a serious one—for every belt of machine-gun ammunition or every bomb, you have to cut off so much gasoline—that is, so many miles or yards of possible flight. And did you ever stop to figure out just how much high explosive it would take to wipe out a city of the size of New York, or just how many tons of persistent gases it would require to destroy all life within such a vast area? The formulæ for all these problems have been very thoroughly worked out in Washington, and the results would astonish you. All this, of course, is quite leaving aside our defensive measures—our own fighting aircraft, which Heaven knows aren't by any means as numerous as I'd like to see 'em and the antiaircraft guns of the coast forts and the Navy. Don't get the idea that antiaircraft artillery is a joke, either; if you think it is, just refer to the results the Navy is obtaining with its new five-inch gun! Not many of your one thousand or two thousand airplanes would ever reach their destinations; and those that did could not bring with them weapons

enough to do any great damage and still have fuel enough for so long a flight. And where would they go afterward, and what would become of them? No—I can't say that I think our cities are in any great danger from trans-Atlantic aircraft just at present."

Whereupon you, Mr. Brisbane, give vent to a loud whoop of derision and go back and write another editorial about armies and navies being a bad joke. And from Maine to California your fellow-citizens read your words, accept them for the truth and perhaps write more letters to their Congressmen. Once again military and naval appropriations are upset, to the detriment of a properly balanced national defense, complete at *all* points and directed by competent staffs.

Personally, of course, the writer of this article is only an amateur soldier, and enters upon such a discussion with some diffidence. Yet he has experienced, as an officer of infantry, four years of modern war, and has been bombed at and machine-gunned at by airplanes on various occasions—and really cannot recall a single instance in which properly trained infantry were seriously incommoded by an aircraft attack. Of course, this wasn't orange-dropping at neat white-stone outlines of forts before an admiring crowd of flapper spectators. This was war—a rather different proposition.

But that's one soldier's view of the problem—and so it may be too much to hope that you or the man in the street will consider it worth while. This is an age of specialization; but war is every American's specialty; we're all soldiers. We're soldiers, though we run, as our untrained, poorly led volunteers have done again and again, from the battle of Long Island to Bladensburg and Manassas.

We believe in our doctors and our lawyers, yes; and in our blacksmiths and our plumbers, too, each in his line; but never, never in our generals and our admirals. When it comes to war, we know it all; and if in doubt, we can turn to the editorial page and wise ourselves up! Yet we never stop to ask ourselves if the writer of the editorial ever led a platoon through the enemy's barbed wire, or stood on the bridge of a destroyer leaping at forty miles an hour through shell-torn seas—or flown a bombing-plane!

Honestly, now, Mr. Brisbane—how do you get that way?

Changing Station

THE following letter concerning frequent changes of station to which Army officers are subject reached us the other day:

"Having heard numerous remarks concerning the disadvantages of repeated changes in stations of Army officers, I hereby submit the following advantages which might possibly have been overlooked:

"1. Suppose you are a hard and conscientious worker. About the time the Commanding Officer decides it would be well to make you Judge Ad-

vocate of the General Court Martial, Range Officer, Instructor for Officers' Schools and Education and Recreation Officer, in addition to your other duties, you will be moved elsewhere with all burdens temporarily dropped.

"2. Suppose, on the other hand, that you think eight hours' work a day is enough, or the Commanding Officer doesn't like the way you part your hair. About the time the Commanding Officer has decided to administer a kick to the seat of your breeches you are elsewhere.

"3. Suppose you have reached the stage where the mental hazard on the seventh hole has entirely crippled, ruined and spoiled your game. You will be placed where you can acquire an entirely new mental hazard.

"4. Suppose your wife has reached the point where she nods only very coolly to the Post Quartermaster. The War Department kindly removes you to a place where she can begin a new campaign.

"5. Suppose your wife objects strenuously to attending social functions without new clothes because everybody on the post knows every dress she has and how long she has had it. Uncle Sammie steps in and moves you to a place where all her clothes are, to all intents and purposes, new.

"6. Suppose the mistreating of your little Adelbert by that hard-boiled Jones boy has reached a point where something will have to be done about it. The Jones are transferred to Porto Rico, which served them right.

"7. Suppose you have reached the stage where there are no more alterations that can be made in the barracks; no more stones to be whitewashed, and no more landscape gardening can be done in your company front yard. You are moved to a place where your artistic eye can begin anew.

"8. Suppose your instruction has reached the point of familiarity at which the boys say 'He will now pull out rabbit number 3.' You are kindly removed by the War Department to a place where all your tricks are new and startling.

"9. Suppose you are a bachelor and some fair damsel has just about decided that she can stand living in a shack, etc., in order to be with you forever and ever. Presto—you are moved to a place where there are new campaigns to be fought.

"10. A rolling stone leaves a lot of mossbacks."

C. M. T. C. Enrollment

Colonel W. H. Waldron, 10th Infantry

FOR the past three years West Virginia has led all of the States of the Union in the procurement campaign for the C. M. T. C. This year the enrollment was completed on April 27, just twenty-seven days after the campaign was launched.

I have so often been asked about the methods of doing this work that I have decided to set them forth in this article in the INFANTRY JOURNAL.

In the first place, there is a per-

manent organization in the State. There is a county chairman with his own county committee in each of the fifty-five counties. These bodies are organized on a continuing basis and do not have to be reappointed and reorganized for the campaign each succeeding year. For the 1927 campaign only about six county chairmen had to be replaced. The sub-committees of the counties are organized under the direction of the county chairmen and, in general, cover the school districts of the county.

The whole State organization is under the supervision of Mr. Justin K. Anderson, State Aide for the Secretary of War, who has as his principal assistant the Chief of Staff of the 100th Division, who, in turn, is assisted by the officers of the Regular Army on duty in the State as executives of Organized Reserve units.

For administrative purposes the State was divided into four districts, each under the charge of an officer of the Regular Army. The first district comprised the counties of the northern panhandle and extended down the Ohio River as far as Parkersburg, under the direction of the unit executive at Wheeling; the second comprised the northern tier of counties under the unit executive at Clarksburg; the third comprised the central tier of counties under the unit executive at Charleston; and the fourth, the southern counties under the unit executive at Huntington.

Each district was organized as a complete unit and all business, including the distribution of C. M. T. C. literature, with county chairmen, was transacted through the district executive. Such was the State organization. It covered every nook and corner of the Commonwealth.

West Virginia was the first State to grant a school credit for attendance at the C. M. T. C. The candidate is given one-fourth credit for each year's attendance, so that high school boys who complete the course at the camps get a full credit. The State Superintendent of Schools, Lieutenant Colonel George M. Ford, Infantry Reserve, an enthusiastic supporter of the C. M. T. C., encourages his school superintendents to make enrollments, and gives them due personal credit for each enrollment they turn in. This feature of the campaign was in a measure responsible for the fact that about eighty per cent of the enrollees from West Virginia this year were high school or college boys. A number of the privately owned institutions of learning and business schools awarded valuable scholarships to boys of West Virginia who were judged by camp commanders worthy of them. These scholarships were based upon the reports of boards of awards of the training camps. They accounted for the enrollment of a number of desirable boys.

When a completed enrollment blank was received by the Chief of Staff, 100th Division, he acknowledged it immediately and sent the enrollee an additional blank, requesting him to get another candidate for the camps. This plan resulted in about a ten per cent return of new enrollments.

Before the opening of the enrollment campaign, the candidates who had attended previous camps were communicated with and urged to make enrollments. This, with three follow-

up letters, brought about many enrollments. It was found that the previous camp boys are the best recruiters; they can explain personally the desirable features and benefits of the C. M. T. C. and sell the big idea of the camps to the boys themselves and, what is more to the point, to their parents. White and [illegible] candidates were allowed to [illegible] competiti[illegible] the boy w[illegible] ber of e[illegible] tended a[illegible] the cam[illegible] dollars.

A spe[illegible] in each [illegible] C. M. T. [illegible] ers. Th[illegible] more o[illegible] the 192[illegible] along s[illegible] essary [illegible] sively. [illegible] the can[illegible] attract[illegible] princip[illegible]

A n[illegible] panies [illegible] as can[illegible] finding[illegible] with a[illegible] nonco[illegible]

Adv[illegible] tunity to carry the message of the C. M. T. C. direct to parents of desirable boys, and their cooperation was found to be most enthusiastic.

The members of the Officers' Reserve Corps were called upon at the beginning of the campaign to secure enrollments. Each of them was furnished with a specially imprinted enrollment blank and they were informed that each enrollment that they sent in would be credited to them on their 201 file at division headquarters. This gave them no inactive duty credit

[illegible] These, then, are [illegible] and methods which have proved very successful over a period of three years. They can be put into operation and will produce results in any State.

TYP
CUT-

Regular Army Infantry Activities

THE popularity of polo continues to increase in the Infantry. The beautiful field at Fort Snelling was the scene of an interesting polo week in July. The teams that played were: Onwentsia, Wakonda, Twin City Reds, Fort Riley and Fort Snelling. The team from Leavenworth must have used some of General A's "dope," for it won the series of elimination matches.

up letters, brought about many enrollments. It was found that the previous camp boys are the best recruiters; they can explain personally the desirable features and benefits of the C. M. T. C. and sell the big idea of the camps to the boys themselves and, what is more to the point, to their parents. White and Blue candidates were allowed to enter into the V Corps Area competitive enrollment campaign and the boy who secured the greatest number of enrollments of boys who attended and completed the course at the camps received a prize of fifty dollars.

A speakers' bureau was organized in each district, and literature on the C. M. T. C. was supplied to the speakers. This feature of the campaign was more or less a reserve measure. In the 1927 campaign, the work moved along so smoothly that it was not necessary to call on the speakers extensively. The moving-picture reels of the camp activities proved to be very attractive features. They were shown principally in schools.

A number of National Guard companies sent some of their enlisted men as candidates to the camps. They are finding the training very desirable with a view to the instruction of their noncommissioned officers.

Advantage was taken of every opportunity to carry the message of the C. M. T. C. direct to parents of desirable boys, and their cooperation was found to be most enthusiastic.

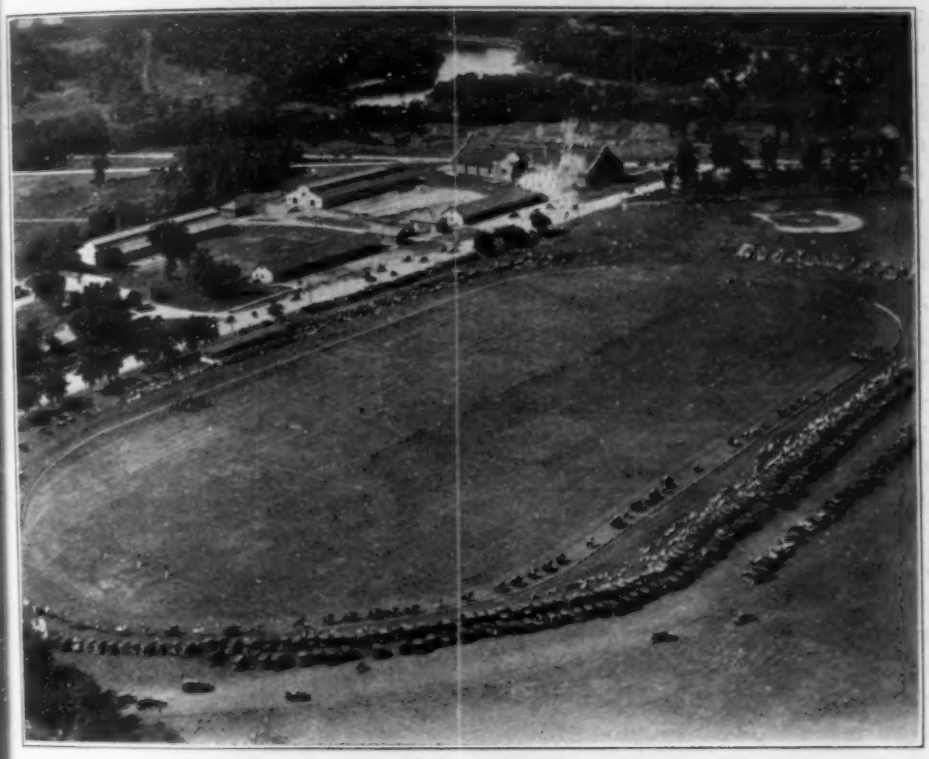
The members of the Officers' Reserve Corps were called upon at the beginning of the campaign to secure enrollments. Each of them was furnished with a specially imprinted enrollment blank and they were informed that each enrollment that they sent in would be credited to them on their 201 file at division headquarters. This gave them no inactive duty credits, but it did give them as interested officers credit on their personal records. Reserve officers were asked to designate a "mantleman"—a son or nephew preferably—a young man to go through the C. M. T. C. and win his commission in order that he might eventually take over the "mantle" of the Reserve officer when for any cause he should have to give up the service. This proved to be a desirable feature of the campaign and produced a goodly number of high-class enrollments.

Hundreds of personal letters were written to enrollees, especially to previous camp men, and close touch was kept with them throughout the campaign.

There is no doubt but that West Virginia candidates enrolled for the 1927 camps were the highest type of boys who have ever attended the C. M. T. C. from the State. This is a natural result of the methods employed. Good boys attract good boys, and the process is cumulative.

These, then, are the organization and methods which have proved very successful over a period of three years. They can be put into operation and will produce results in any State.

Regular Army Infantry Activities



The Polo Field at Fort Snelling

The Teams Paraded Before the Match

Polo at Fort Snelling

THE popularity of polo continues to increase in the Infantry. The beautiful field at Fort Snelling was the scene of an interesting polo week in July. The teams that played were: Onwentsia, Wakonda, Twin City Reds, Fort Leavenworth, Fort Riley and Fort Snelling. The team from Leavenworth must have used some of General A's "dope," for it won the series of elimination matches.

Polo in the Canal Zone

First Lieutenant Oliver W. Hughes, Infantry, A. D. C.

THE Army introduced polo in the Canal Zone in 1925. Since that year there has been an annual tournament to decide the championship among the service teams in the Zone. At first it was difficult to get officers interested, and only the 42d Infantry and the 33d Infantry sent teams to the tournament in 1925. The 42d Infantry won this first contest by a score of three to two. The winning team consisted of the following players: No. 1, Captain Delong; No. 2, Lieutenant Booth, now playing on the Fort Hamilton team; No. 3, Lieutenant Miller, now playing at Fort Snelling; No. 4, Lieutenant Paquet, at present substitute on the team at Fort Hamilton.

The polo season in the tropics coincides with the dry season, and begins about the first of January and ends the first of May. At the beginning of the 1926 dry season five teams started practice. Competition was keen and all five teams entered the tournament. They were the 14th Infantry, 33d Infantry, 42d Infantry and 4th Field Artillery and Freebooters teams. In that year the 42d Infantry team again went home with the championship, but only after a hard-fought game with the 33d Infantry.

In the final match the teams were:

42D INFANTRY—7

No. 1—Lieutenant Booth.
No. 2—Lieutenant Hughes.
No. 3—Major Chynoweth and Lieutenant Miller.
No. 4—Lieutenant Paquet.

33D INFANTRY—4

No. 1—Lieutenant Greene.
No. 2—Lieutenant McChrystal.
No. 3—Lieutenant Newman.
No. 4—Major Brown.

At the end of the second season it was seen that if polo was to be continued in the Canal Zone other horses must be imported. The Army horses are old and worn out, and good horses cannot be purchased in this country. Accordingly, a group of officers organized and sent Lieutenant W. R. Miller, now playing on the Fort Snelling Blacks, to the States to buy twenty-six horses. With the aid of Major A. H. Jones, Army remount purchaser at Salt Lake City, Lieutenant Miller got all of the horses, among them a number of good ponies, at Salt Lake.

The importation of these private mounts gave polo a boost in 1927. The polo was better and the games much faster than they had been. In the tournament this year, as in 1925 and 1926, the 42d Infantry and the 33d Infantry played in the finals to decide the championship. After playing off a tie game, the officers of the 33d defeated the team from Camp Gaillard by a single goal.

The teams were:

33D INFANTRY—5

No. 1—Lieutenant Greene.
No. 2—Lieutenant Newman.
No. 3—Lieutenant Kuntz.
No. 4—Lieutenant McChrystal.

42D INFANTRY—4

No. 1—Captain Parker.
No. 2—Lieutenant Hughes.
No. 3—Lieutenant Beatty and Lieutenant Carrington.
No. 4—Lieutenant Dean.

After the regular tournament a team picked from the officers on the Atlantic side of the Isthmus met a similar one from the Pacific side in a three-game tournament. These games were played on the 14th Infantry field at Fort Davis, which is on the Atlantic side. The Pacific side team won all three games.

The summary:

PACIFIC SIDE

No. 1—Captain Parker and Lieutenant Dean.
No. 2—Lieutenant Hughes.
No. 3—Lieutenant Biddle.
No. 4—Lieutenant McChrystal.

ATLANTIC SIDE

No. 1—Lieutenant Hill.
No. 2—Lieutenant Douglass.
No. 3—Lieutenant Gould.
No. 4—Major Eager.

SCORES:

First game: Pacific—6; Atlantic—3.
Second game: Pacific—6; Atlantic—4.
Third game: Pacific—9 Atlantic—5.

More good horses are needed here in the Panama Canal Zone if polo is to be continued, for good horses cannot be obtained here. If all polo players who are ordered for duty in the Canal Zone will bring at least two ponies along with them, they will contribute doubly to this enjoyable and exciting form of officers' athletics and exercise.

At Camp Perry

SADNESS prevails in the 28th Infantry! For once in its twenty-seven years of existence the 28th has failed to meet a demand made upon it. A quartermaster has made the request that the 28th can't meet.

"If we only had a Navy detachment in the outfit; if we had only known it before we left Youngstown, N. Y., to come to Camp Perry, we'd a have done the trick," said one old-timer. "We gave them sign painters, cooks, bakers, clerks, motion-picture operators, food announcers, silverware checkers, property men, typists, file clerks; but we're not the Navy."

The reason for the sadness? Oh, yes! The Quartermaster at Camp Perry asked for a sailmaker to mend tents.

The 28th Infantry has neither sails nor sailmaker—it's just a Doughboy outfit.

Lt. Col. K. T. Smith—Captain of the Infantry Team

Here and There With the Infantry

IT is quite usual to hear about the target records of regiments, but, except locally, one does not hear so much about what the companies accomplish. Here is a company record that speaks loudly enough to be heard for quite a distance.

Company E, 19th Infantry, stationed at Schofield Barracks, Hawaii, has recently completed a very successful season on the range, where it qualified 100 per cent. Corporal Hughie S. Evans' squad of that company won the competition for the regiment in combat firing and was selected as the Chief of Infantry's Combat Squad. The organization also made the highest score in the regiment for the annual skirmish run. In the beach defensive machine gun firing practice, fired by all rifle companies of the brigade, the gunners from Company E made the highest average scores, and were selected to represent the regiment in the brigade beach defense night firing problems with machine guns.

Captain K. S. Anderson and Second Lieutenant Henry I. Kiel are the company officers.

* * * * *

FROM HAWAII comes word of the birthday celebration on July 8 of the 35th Infantry, Colonel C. W. Weeks, commanding. On this Organization Day the regiment assembled to hear its history read. Then there were holiday dinners and a program of sports and swimming events. The 35th Infantry is only about ten years old. It must be personnel, therefore, not years, that makes a good regiment.

THE 30TH INFANTRY, Colonel Frank C. Bolles, commanding, has just received a beautiful loving cup inscribed with the following words: "The 30th Infantry, our model for efficiency and discipline."

The donor of the cup was the 302d Gas Regiment, a volunteer organization. This regiment was attached to the 30th Infantry for two weeks' training in August.

Colonel George A. Hunt, O. R. C., commanding the 302nd Gas Regiment, revealed the motive for the gracious action when he expressed the regiments thanks for the splendid training it had received, and for the spirit of cooperation and helpfulness that had prevailed among the officers of the 30th Infantry.

* * * * *

THOUGHTS OF distant lands often bring to mind pictures of strange things and doings. When one goes to those lands, however, one often feels a recurrent sort of wonder at seeing familiar things and doings.

A tour of the Army could easily produce the same impression. If a traveller who was familiar with the sleeve patch of the Chief of the Infantry's Combat team, were to visit the Presidio of San Francisco, and if he were to look in at the quarters of Company F, 30th Infantry, he would see that same familiar patch newly applied to the sleeves of the members of Corporal Webb I. McMillin's squad, the most recently designated squad of the team. He'd know, then, that he was looking at a squad that had proven its worth.

When Warrant Officer Arthur A. Jason, Band Leader of the 21st Infantry band, leads his seventy-piece composite band at concerts in Hawaii, there will be concord of more than sweet sounds. There will also be concord among three branches of the service; for the 3d Engineers, the 8th, 11th and 13th Field Artillery, and the 19th, 21st, 27th and 35th Infantry Regiments will all furnish the musicians. The newly organized band should be well worth hearing.

* * * * *

It is not only in musical matters that there is room for concord. A rifle and pistol competition held at Camp Lewis (now Fort Lewis), Washington, in August is an example. About one hundred and seventy-five competitors and the following teams took part:

3d Division: 7th Infantry, 4th Infantry, 6th Infantry, 10th Field Artillery and Special Troops.

Battle Fleet: U. S. S. California, West Virginia, Colorado, Maryland, Tennessee, New Mexico, Mississippi, Idaho, Pennsylvania and Arizona.

Washington National Guard: 161st Infantry, National Match Team (with two or three exceptions).

Civilian Clubs: Vancouver Rifle Club, Ranier Rifle and Revolver Club, Wenatchee Rifle Club, Kitsap Rifle and Revolver Club, Bremerton Rifle Club, Yakima Rifle Club and Tacoma Rifle Club.

There were from one hundred fifty to one hundred sixty-five entries for all individual title matches. In the team matches, there were thirty-seven entries in the Four Man Team match, twenty-one in the Inter-Regimental match, and five in the Western United Service Team match.

The interest was keen and well sustained, and the teams were so evenly matched that the winners were well scattered through the various clubs. As the match progressed, it became apparent that there would be a hard fight for first place among the 3d Division, Washington National Guard, and Marine teams. After overcoming a lead of eleven points at the two hundred-yard slow fire stage, the 3d Division team won first place from the Washington National Guard by six points, which in turn won from the Marine team by eight points.

In the pistol matches, the competition was as close, and only three points separated the first three men in the aggregate for the trophy. At the fifty-yard bobbing targets, it was necessary to fire fifty rounds and to reduce the time to three seconds per shot in order to break a tie for first place.

* * * * *

The "Pig-Skin" isn't made of pig skin at all. What it is made of, the first All-Army football team, that is assembling at Fort Screven, Georgia, does not care at all. What the All-Army team does care about is to learn all the football it can, get into the best possible condition, win its games, and especially the game for the President's Cup. To take this game at Washington on November 19, Major James A. Van Fleet, Infantry, his assistants, and a predominantly infantry squad are working to beat the—Devil Dogs.

Items on the National Guard

Assistant Secretary of War Reports National Guard in High State of Efficiency

The "new efficiency and high morale of the National Guard" featured the report to the Secretary of War, Honorable Dwight F. Davis, by Assistant Secretary of War Hanford MacNider, who, during the latter part of the summer, flew approximately twenty-five thousand miles inspecting National Guard installations and encampments. It is noteworthy that, during this extended air travel, every engagement was made exactly on schedule.

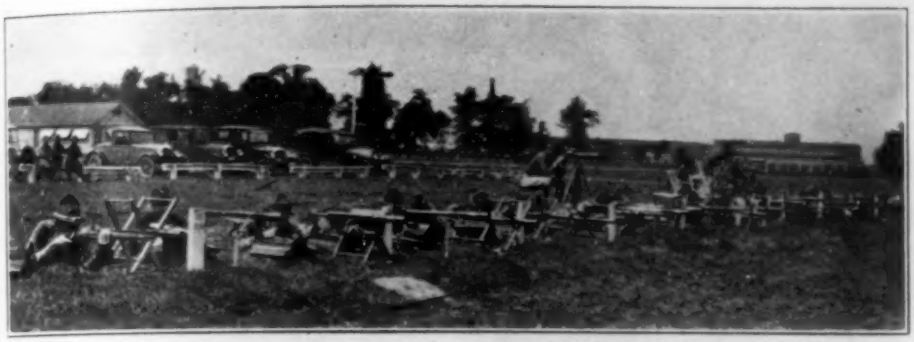
Following are extracts from the report:

"Detailed inspection was not attempted, but every effort was made to check the reaction of the Guard to their present training schedules and regulations, the morale of the commands and the condition of Government facilities for proper administration of Guard affairs.

"It is desired to emphasize the tremendous value of the war-trained commissioned personnel of the National Guard which contributes largely to the present high state of efficiency evident throughout the whole establishment. The general officers and adjutants general are without exception conscientious and competent leaders and able administrators. Under present guidance and leadership, the National Guard is taking on an added significance and importance in the National Defense structure. As a whole it is in excellent condition and comprises a well-trained and effective force, immediately available for the national protection. Under present limitations of enlisted and commissioned strength, the Guardsmen feel that they cannot develop as the National Defense Act prescribes, and they are anxious that their skeletonized and still unauthorized units be soon completed that they may round out a properly balanced organization. The Guard forms the largest element of the Army of the United States and comprises the only considerable group which can be immediately mobilized.

"All commanders of Guard units were unanimous in their praise of the Regular officers assigned to them for instruction purposes, and the relationship appears to be mutually helpful to both establishments. An interesting development has been the assignment of Reserve officers to National Guard units during field training. This practice has been largely developed in some of the Guard divisions and promises a new and worthwhile tie-in for the third element of the Army of the United States.

"The fine character of young citizens who are endeavoring, through service in the Guard, to make them-



On the Range at Camp Perry

selves assets to their country in time of emergency was especially impressive."

The Assistant Secretary's report concludes with the statement: "The National Guard of the United States has competent and experienced leadership on which the nation may well congratulate itself. Despite handicaps in facilities and in strength, the National Guard is on the high road toward the fulfillment of its important mission."

The National Guard at the National Matches

THE 1927 National Matches opened with the greatest attendance in many years. Every State in the Union, as well as Porto Rico and Hawaii, sent one or more teams. The lists included competitors from the Regular Army, Navy and Marine Corps, National Guard, Organized Reserves, C. M. T. C., R. O. T. C., civilian clubs, police organizations and youngsters of the junior rifle clubs. Interest ran high and the excellent shooting created keen competition.

There were one hundred and fourteen teams of all kinds in camp, of which one hundred and four were rifle teams. The National Guard had there forty-four teams from as many States. The total attendance was forty per cent more than in 1925, but despite this heavy increase, the camp administration functioned perfectly. One hears only praise on all sides for the very efficient manner in which the matches were conducted this year.

As in 1925, the School of Small Arms Firing was conducted by instructor personnel from the Infantry School, assisted by additional officers of the Regular Army, National Guard and Officers' Reserve Corps. The instruction was virtually a tabloid Benning course, and everyone was enthusiastic over the presentation of the subject matter and the benefits derived from attendance at the school. With such excellent instruction, the popularity of the National Matches cannot help but grow with each succeeding year.

Col. A. J. MacNab, Executive Officer, National Matches

The National Guard teams, which were composed mainly of infantrymen, set an enviable record. On September 10 the Oregon National Guard Rifle team swept everything before it in the Infantry Match.

Another interesting achievement of the National Guard was the selection of five members of the District of Columbia Rifle team for places on the team selected to represent the National Guard in the United Service Match, which was fired September 10. Not content with having five of the eighteen shooting members selected from their team, the captain of the D. C. team was also chosen as the coach of the United Service team in view of the high standing of his team.

Viewed from all angles, 1927 has been a National Guard year. The attendance was greater, the teams were better and the determination to win was strong. Every team captain worked hard to have his team finish in Class A. The Guardsmen in camp all looked very well. Every Guardsman at home can feel secure that his State was well represented by the fine type of marksman that it has sent to the 1927 National Matches.

The Infantry School

THE growing number of National Guard officer graduates of the Infantry School stamps this institution as an important factor in the training of the Guard. Much of the steady improvement being shown in the training of organizations, and in the plans and methods of carrying out the instruction, can be credited to the assistance of the officers who have completed the courses at the Infantry School.

There are two courses for National Guard company officers at the Infantry School. They are the Rifle and Machine Gun courses, and officers are usually selected for one or the other on account of their special qualifications for service in rifle or machine gun and howitzer companies. There is only one Field Officers' course.

It is understood that for the coming year the Militia Bureau is planning to send to the Infantry School about twenty field officers and one hundred company officers. These figures are approximate only and are not official. Official figures of attendance will be published in Militia Bureau instructions when all details are

completed. The quota of company officers will be divided between the two courses, in a proportion to be announced later.

It is interesting to note the progress already made in sending National Guard officers to the service schools. About seven hundred Infantry officers have already attended the authorized courses at the Infantry School. Since 1920, and not counting the allotments for the coming school year, the number of National Guard officers who have attended one service school or another is seventeen hundred and two officers. This fact seems to prove the interest of the Militia Bureau in the service schools and the value of the schools to the training of the National Guard. The Bureau has shown clearly that it wants the greatest number of National Guard graduates that the available funds will permit.

A Militia Bureau Innovation

THE Militia Bureau proposes to inaugurate, during the coming fall and winter, an activity that should prove valuable to the officers on duty in the Bureau and, at the time, create a better understanding of the problems of the National Guard in the field training. The innovation consists of a series of conferences at which officers who visited camps during the past field training period will describe their observations at each camp.

These conferences will furnish to National Guardsmen who did not attend training camps some very useful first-hand information. They will also serve as a medium for exchange of information among the officers who made visits. There can be little doubt that the conferences will prove more valuable than written summaries.

The following extract from a memorandum of the Militia Bureau, dated August 19, 1927, explains the idea which it is proposed to put into practice:

"Each officer visiting training camps during 1927 will be prepared to state verbally his impression of the camps visited, indicating, briefly, questions that were taken up with the responsible National Guard authorities which require further action by the Militia Bureau, as well as calling attention to desirable changes in instructions relative to training, supply and preparation of camp estimates. Written statements are not desired. Each officer should prepare in advance sufficient notes to enable him to dispose of his subject in the minimum time, and all other officers from interested sections in the Militia Bureau should be prepared to take notes covering any question raised which require action by the Militia Bureau."

A New Machine Gun Cart

FOR some time the problem of furnishing animals for machine gun companies of National Guard infantry regiments has been a perplexing one for the Militia Bureau. It has been utterly impossible to provide animals for use during the armory training period because of the great expense, their limited use and the lack of facilities for caring for them in infantry armories. During the field training, however, it has been possible to furnish a limited number of animals, but these were rented and, in nearly every case, were unsuited for the work. While these inferior substitutes have been better than none, they have been a heavy burden on the Militia Bureau funds, and their use has resulted in many injuries to personnel and much damage to equipment.

The greatest obstacle, however, has been encountered in conducting armory training with the present heavy animal-drawn cart. This cart has been found to be almost entirely unsuited for such purpose because of its great weight, unwieldy bulk and lack of adaptability for hand draft. The cart must be drawn laboriously by the personnel of the units, who soon lose all interest in its use; so that the cart drill is generally slighted, if not entirely disregarded during the armory period. Another objectionable feature is the noise of the heavy iron-tired wheels on wooden floors, which often makes it hard to understand the commands.

On the other hand, the field training resolves itself largely into one of handling and breaking green animals hired for use of machine gun units during the two weeks' training period. Breaking and training animals entirely unused to this duty is always a source of much trouble and annoyance, and frequently results in the loss of valuable time. Unless a substitute for the present heavy cart can be developed for use during field training, the handling and breaking of green animals must go on indefinitely, while the cost of hiring such animals will continue as a burden upon Militia Bureau funds.

It has been the hope of the Militia Bureau that some solution to this problem would eventually be presented. About a year ago a suggested solution came from an instructor on duty with a National Guard infantry regiment. He advocated the development and adoption of some type of light hand-drawn cart to replace the present type for armory drill purposes. The Militia Bureau was thoroughly impressed with the merits of the idea, but believed that the cart should be fit for use in both armory and field training. In other words, only through the development of an all-around cart could the problem of supplying animals also be eliminated.

With this in mind, the Bureau commenced a study to develop a design upon which a thorough test, under all conditions of National Guard service, could be based. It was learned from the Ordnance Department that a light cart, known as the Infantry TI type, had already undergone a test by the Infantry Board. It was the understanding that this cart had been rejected because it was unsuited for all kinds of service, including active

service in the field. The Militia Bureau believed, however, that by confining its efforts to the development of a light cart for peace-time training only, the Infantry TI cart could be used for experimental and test purposes. An order was, therefore, placed with the Ordnance Department for the manufacture of eight such carts, which were to be distributed between two National Guard infantry regiments, four carts to one machine gun company in each. These carts were finally completed and delivered to the units concerned about December 15, 1926, and since that time have been undergoing a thorough test.

The experimental cart is a light vehicle (about 150 pounds unloaded), with rubber-tired, ball-bearing wheels, wire spokes and steel rims. When delivered it was equipped with an oblong wooden box body with sideboards about five inches high. In the center of the body, extending lengthwise, was a box container, with retaining cleats for loading and holding the machine gun. On each side of this container was additional space for carrying the tripod, water and ammunition boxes and other miscellaneous equipment. At first the cart had a pair of standard Vickers cart shafts. This was an error, as it had originally been planned to have a center towing pole with a cross handle and a device for attaching the cart behind a truck or an automobile. However, both draft arrangements have since been developed in the test.

The Militia Bureau prescribed the following basic items for the test. While these items were mandatory, the testing officers were not confined solely to them, but were encouraged to devise additional ones. The Militia Bureau basic test items included:

a. The load.
b. Arrangement of the cart for carrying the load.
c. Adaptability.
   (1) Armory drill.
   (2) Field training, including participation in field or combat exercises.
d. Serviceability.
e. Effect upon personnel.
f. Adaptability for towing.
   (1) By escort or other wagon.
   (2) By motor truck.
g. Adaptability for animal draft.

The purpose of item "a" is to determine a proper, reduced, fixed training load of essentials. It is necessary that the load finally adopted be sufficiently complete to meet all normal training needs without changing or substituting particular items for any special requirement of armory or field training. The maximum weight of the load to be determined during the test, exclusive of the cart, is fixed at two hundred and fifty pounds, which will give a maximum weight for cart and load of four hundred pounds. For a fixed load of not to exceed two hundred and fifty pounds, certain items of the present standard load must be eliminated.

As previously stated, it is the purpose of this part of the test to determine which items to eliminate and which to retain. It was believed that, on account of its bulk and weight, the amount of ammunition should be kept at a minimum, so as to make room for other essential items and keep down the weight of the load. This is a reasonable view, since in National Guard training camps it is always possible

to transport additional ammunition to the place of firing. However, the testing officers were cautioned that a certain number of ammunition and water boxes must be included in the final training load.

The arrangement of the cart for carrying the load is an essential item. The Militia Bureau was not convinced that the type of body furnished with the cart was the best for this purpose. It lacked proper facilities for securing the load while in draft, and the various articles could not be securely placed within it as originally constructed, because of its large size. Testing officers have been encouraged to experiment with other types of bodies, even to the extent of substituting ones of local design; in order that a comparison of the merits of each could be made. Funds were provided for making changes in the body design during the progress of the test work.

Adaptability for armory and field training is an important feature of the test. This phase necessarily had to be divided into two parts:—that which could be done in the armory, and the field test during the field training period. The armory test during the past winter was largely limited to the prescribed drills with the cart. During the field training period, however, the testing officers were urged to subject the cart to all the requirement of the approved training schedule for the troops concerned. They were also asked to apply any other reasonable requirements of field service which would assist in proving or disproving the merits of the light cart. Only one restriction was imposed during this part of the test, that all testing be confined to the normal training conditions in the particular camp concerned. Everyone was impressed with the fact that it would be wrong to expect a light cart to accomplish all that the heavy cart could do.

The serviceability item of the test is to determine the strength and wearing qualities of the light cart and bring out any structural weakness and suggestions for improvement in construction or design. It was never believed that the original design was entirely satisfactory for the purpose intended, and this has already been proven since the test began on December 15. Every effort has been made to keep a careful check on this item, especially with reference to break downs or apparent weaknesses, and the expense for making repairs resulting from fair wear and tear.

It is clear that the effect of any new item of equipment on personnel must be carefully studied. The testing officers are carefully noting the attitude of the men toward the new cart, and their reactions while drawing by hand the old and new types. Expressions of opinion from individuals who have to handle both types of carts are being sought to determine the effect of each upon the morale of the organizations. To be entirely successful, the light type cart must create a favorable reaction in the minds of the personnel.

The reason for determining the adaptability of the light cart for towing purposes is so that this method of draft may be used, if practicable, in long marches. Testing officers are charged with observing the cart in tow, in order to determine how it

keeps the road, the stability of the load and the effect of towing upon the cart generally. One restriction was imposed upon this part of the test, that only reasonable speeds be employed and, in no case, should they exceed those normally used with the animal-drawn cart.

Adaptability for animal draft is included as a test item merely for the purpose of determining the feasibility of using animals after mobilization and until the standard type cart could be reissued to the troops. It is not deemed important and has almost been eliminated as an item because the use of animals would be so limited that there is little use in spending much time on this part of the test. If necessary, a light pair of shafts could readily be designed for the light cart. In any event, the heavy cart shafts furnished with the cart are entirely unsuited and must be replaced by a special design if such are desired.

The conduct of the test has not been allowed to interfere in any way with the training schedules of the units concerned. In the opinion of the Militia Bureau, the best test conditions are those imposed by the normal requirements of training schedules, and not by work that the average National Guard machine gun company does not ordinarily do.

Since the test began on December 15, the testing officers have submitted reports on a form prepared by the Militia Bureau. In addition, an officer from the Militia Bureau spent some time this summer in the camp of each unit that has the new carts. Under his supervision, the field training tests were conducted and a careful record kept of the performance of the carts. This officer will prepare a full report on his observations, and those of the testing officer, for presentation to the Chief, Militia Bureau.

Volunteers

"YOUR attention is called to the fact that the members of all three components of the Army of the United States—the Regular Army, the National Guard and the Organized Reserves—are volunteers. These men, these citizens, are voluntarily devoting their time, their talents and their energies to preparing themselves to be of value to their country in case of an emergency. Are other citizens doing as much, or do they even give encouragement to this preparation?"—Col. KIRBY WALKER, Cavalry, in *The Arrowhead.*

Reserve Officers' Department

The National Convention of the Reserve Officers Association of the U. S.

THE Reserve Officers' Association of the United States will hold its sixth annual convention at Milwaukee, Wis., October 23, 24, 25 and 26. Headquarters are to be maintained at the spacious Elks Club. Over one thousand Reserve men from all parts of the United States are expected to attend.

Brigadier General Roy Hoffman, Oklahoma City, Okla., is president of the convention. Lt. Col. Garrit C. DeHeus is head of the Milwaukee Chapter of the association, and Major Henry B. Greisen, Milwaukee, is general chairman, who will have charge of the arrangements for the convention.

The following officers, all of Milwaukee, have been appointed to head the convention committees: Lt. Col. Harry E. Bradley, reception; Lt. Col. Stephen Park, program; Lt. Col. Elmer Meyer, entertainment; Lt. Earl Ferguson, registration; Lt. John J. Claude, attendance; Major Cy. H. Lyle, finance; Capt. E. M. Connor, transportation; Capt. Howard A. Winton, publicity.

The convention last year was held at Norfolk, Va. Milwaukee is planning to give the Reserve men a real military welcome. It has become famous as "the convention city" of the United States. All Reserve officers in Milwaukee are cooperating heartily to make the event a success, and it is expected to be the largest ever held by the organization.

The year which comes to a close with the opening gavel of this convention, has witnessed the enrollment of the largest membership in the Reserve Officers' Association to date; and the membership drive put in motion by national headquarters some weeks ago is bearing a continuous and a flattering crop of fruitage in renewed enthusiasm and increased membership.

Of interest to every Association member is the stable financial footing upon which the Association's organ, "The Reserve Officer," has been placed. This important publication now becomes a financial asset to the Association instead of a liability—a fact of much importance to any association whose budget is dependent solely upon membership dues.

EMINENT GUESTS TO ATTEND

Among the eminent Americans who are expected at the convention are the Chief of Staff of the Army, Major General Summerall; ex-Senator James Wadsworth of New York; Colonel Theodore Roosevelt; Major General Lutz Wahl, the Adjutant General, who

is a Wisconsin man, and who plans, as he says, a "most enjoyable three days with the home folks"; Major General Creed C. Hammond, Chief, Militia Bureau; Major General William G. Price, president of the National Guard Association; Mrs. Alfred Brosseau, president-general, D. A. R.; Mrs. William Sherman Walker, vice-president-general, D. A. R.; the Secretary of War, Mr. Dwight Davis; the Assistant Secretaries of War, Mr. MacNider and Mr. Davison; Major General Lassiter, commanding general, Sixth Corps Area; and representatives of all the leading service and veteran journals and publications.

It seems evident that the forthcoming national convention of the Reserve Officers' Association is destined to attract great nation-wide interest, and that it will work an epochal period in the progress of our national defense.

The Six Field Army Plan

THE following announcement by the War Department, released on August 19, 1927, is of interest to all Reserve officers:

"The six field army program never has been abandoned by the War Department.

"All war plans, including the mobilization plan, must be revised and adjusted from time to time to meet changes of conditions and the results of experience. For such a purpose the mobilization plan is to be revised in the near future. The readjustment will not occasion any reduction in the number of Reserve officers, nor will they be subjected to any injustice.

"On the contrary, there recently were adopted policies which should effect an increase in the number of Reserve officers. Furthermore, the regulations in conformity with those new policies are intended to provide a more healthy flow of promotion than formerly was possible."

Reserve Summer Training Jottings

SOME interesting notes upon the training of the 352d Infantry at Fort Snelling, Minnesota, from July 20 to August 3, have been sent in by Lieut. Col. Lawrence L. Conrad, of that regiment. The report directs attention to the very great desirability of reducing the introductory and valedictory parts of all fifteen-day active duty periods to the minimum. Travel time two ways, holidays within the period, and processing in and out reduce the nominal fifteen-day duty period, all too brief at best, to about ten days of real military accomplishment. On that account, every period of each day's schedule should be carefully provided for far in advance of the camp period; and each period should coordinate with its adjacent periods and with the schedule as a whole.

This report is pleased to say that, fortunately, the species known as "time killers" was rather conspicuous by its absence this year. The reference was to the instructor who, going before his class without thorough preparation for his mission, spars for time until the gong sounds; or to the unfortunate officer who is called upon at the last minute to "pinch-hit" for an absentee.

Appreciative comment is made upon the hearty cooperation and comradeship of the Regular officers and men, and upon their uniformly conscientious efforts to assist in every possible way the training of the Reservists. Our observation is that that fine spirit has become so nearly universal in the Regular establishment as to cease to have much news value; the exception would be greatly more startling.

* * * * *

A Reserve officer in correspondence with another recently made a more or less facetious classification of Reserve officers as follows:

"Field soldier, parade ground soldier, military nut, summer camp enthusiast, correspondence school book worm, ballroom officer, the physically fit, the abdominal monstrosity, and the well-balanced Reservist." He has not as yet prepared a war-strength table of organization covering these several branches and grades, nor has he suggested any policy providing for promotion, assignment or transfer from one grade to another.

* * * * *

The 408th Infantry, in training at Fort Leavenworth from July 10 to July 23, under the command of Lieut. Col. Ward L. Schrantz of Carthage, Mo., pursued a varied and complete training schedule. An interesting feature was a twenty-four-hour tactical course conducted by Major J. S. Leonard, U. S. A., involving estimates of the situation and decisions for units up to and including the regiment, and situations for the advance guard, outposts, the regiment in defense and the regiment in attack. The problems given were solved both on the ground and on the map.

During the course several entertainments were given for and by the officers. At one of these the headliner was an old-time badger fight. It is fortunate that the Society for the Prevention of Cruelty to Animals did not get wind of this.

* * * * *

The Oregon Department offered a handsome silver trophy cup to the high individual at the recent R. O. T. C. camp held at Vancouver Barracks, according to a report in the August issue of the Monthly Bulletin of the Oregon Department of the Reserve Officers' Association. Cadet Lieutenant George S. Cook, of the University of Washington, won the trophy with a score of 233 out of a possible 250. Brigadier General Joseph D. Leitch, commanding Vancouver Barracks, made the presentation. A gold medal offered by Lieut. Col. Clarence Hotchkiss was awarded to Cadet Albert S. King, of the Oregon Agricultural College.

Peppy Publications in Reserve Training Camps

THE excellent practice of publishing journals, news sheets and similar publications at the various training camps of Reserve officers continues to increase from season to season.

Many helpful and *esprit* building features are noted in the copies of these training camp publications which have come to the INFANTRY JOURNAL's desk.

Many of these journals are in mimeographed form, but none is the less interesting on that account.

The 311th Infantry, in training at Fort Wadsworth, Staten Island, N. Y., from July 24 to August 6, published a typical journal of this kind, under the punning caption, "The Ebening Record," this name being in honor of the regiment's commanding officer, Colonel James Eben, Infantry Reserve.

A feature of the "Ebening Record," which undoubtedly made for a spirit of comradeship and cooperation among all the trainees and the Regular instructors, was the series of "biographical notes," setting forth the interesting facts of the military careers of the Commanding General, Brigadier General Hugh A. Drum; the Regimental Commander, Colonel Eben; Colonel Campanole, on duty with the Reserves, and other officers.

Editorials, notices of social events, a directory of officers, and historical and training data had prominent place in this journal.

Many of the divisions and regiments of the Organized Reserves are maintaining attractive, well-edited and most helpful publications throughout the year.

The INFANTRY JOURNAL welcomes these interesting and purposeful service publications to its exchange desk. They are evidences of a most desirable interest in the vitally important avocation of the Reservist.

The 378th Infantry Takes the War Path

OFFICERS of the 378th Infantry, Reserve regiment of that part of Southeastern Oklahoma formerly occupied by the Five Civilized Tribes of Indians, are adopting for their emblem the symbols representing the Indian traditions.

The motto is "Hegia Kalo," which, in the Choctaw language, means "Stand Firm." The tribes that once dwelt as separate nations in this territory are: Choctaws, Cherokees, Chickasaws, Seminoles and Creeks. McAlester, headquarters for the 378th Infantry, was at one time the capital of the Choctaws.

Several officers of the regiment, headed by Colonel Charles West of Tulsa, are of Indian lineage. All officers are devoting themselves to their training activities with the knowledge that in case of war many of their men will be descendants of the chieftains and warriors of the Five Civilized Tribes.

Victor M. Locke, Jr., of Antlers,

lieutenant colonel of the regiment, is a former governor of the Choctaw nation and former superintendent of the Five Civilized Tribes.

Forty-one officers of the regiment attended the fourth annual unit training camp at Fort Sill, Oklahoma, for the two weeks from July 17 to 30. The instructors in the military topics taken up during the camp were officers of the regiment itself.

Major General Ernest Hinds, commanding the VIII Corps Area, visited the camp on the opening day. He told the officers of the part of the Reserve Corps in the work of maintaining the military establishment.

The officers who took special examinations in the evenings on their own time earned more than 250 certificates of proficiency during the camp.

One of the popular activities with officers of the 278th Infantry is enrolling the boys of Southeastern Oklahoma for the Citizens' Military Training Camp. For the 1927 camp at Fort Sill the officers of the regiment turned in more applications than any other unit in the State.

To become better acquainted with the boys from their own counties, the regimental officers one evening entertained more than three hundred youths from Southeastern Oklahoma. Colonel West told the boys of the value of their training and the necessity for preparation in case of any future war. The boys brought their own band and, after having been grouped by counties, engaged in yell contests.

The officers of the regiment sponsored the largest meeting of Reserve officers in Oklahoma within the last three years when they entertained Lieutenant Colonel T. J. Rogers of Oklahoma City, chief of staff of the 95th Division, at a special dinner in the officers' club at Fort Sill. One hundred and ten officers were present. These represented the 378th Infantry, the 379th Infantry, the 409th Field Artillery and Regular Army officers stationed at Fort Sill.

Ten Years After

TEN years ago, a group of one hundred and eighty men, members of the 5th Company at the Fort Snelling Officers' Training Camp, received their commissions and departed for service in France with the American expeditionary forces. On Saturday, thirty-nine of this number returned to the Twin Cities to celebrate the anniversary of that last meeting.

All day Saturday, these men who came from all parts of the country, strode about Snelling in their old barracks and talked of their training days. In the evening they gathered at the Minneapolis Athletic Club for a reunion dinner. . . .

The Saturday meeting was the first time that the members of the 5th Company had got together since they separated at Snelling in 1917.

—*Minneapolis Sunday Tribune.*

Book Reviews

Five Years in Turkey

"Five Years in Turkey," by Liman von Sanders, General of Cavalry, German Army.

Written from first-hand knowledge as Chief of the German Military Mission to Turkey and as commander of the Turkish Armies in the Dardanelles and Palestine Campaigns, this recent book by General von Sanders is an outstanding and valuable contribution to the history of the Turkish effort in the World War.

From an account of the Military Mission and the stipulations governing its activities, the events leading to Turkish entry into the World War, and the first conflicts in the Caucasus and Suez, the author brings the reader to the period before the Dardanelles Campaign, the knowledge of the impending attack, the strategic and tactical considerations involved, and the dispositions and preparations for defense.

The subsequent account of the Dardanelles Campaign in its first and second phases is clearly written and throws into bold relief the entire aspect of the campaign.

A somewhat brief description of the important military events during the years 1916-17 follows, succeeded by an introduction to the Palestine Campaign, the account of which leaves nothing to be desired by the military student.

Throughout the book the character of the Turkish soldier, the economic state of development of Turkey and the restrictions imposed on the commander by the lack of communications, transportation, deplorable sanitary conditions, corruption and the lethargy peculiar to the Turkish character are unfolded. The author presents the facts about the Military Mission from its inception, the subsequent limitation and extension of its activities, the undercurrents of politics and intrigue, which operated to restrict the effectiveness of its efforts and the actual influence exerted by the Mission on the conduct of the War in Turkey, the organization and training of the Turkish Army and the contribution of that army to the Entente cause in their relation to the various situations. He gives due weight to the campaigns in Mesopotamia and the Caucasus, the Arabian influence on Turkish operations, and the minor naval and land engagements. The book is comprehensive in scope and throws into proper focus the various military events so as to round out the whole into an enlightening record of Turkish military activity in the World War.

One is left with the impression that the Turk is a redoubtable fighter despite the fact that he was seldom paid, if at all, poorly fed, and was lucky if he had clothes on his back or shoes on his feet; and that, if properly led,

paid, clothed and fed, would be an opponent to be considered with the highest respect.

The author writes with the view of letting the facts speak for themselves and presents his thoughts and actions at the time of the various situations that confronted him.

The book is of undoubted value to the military student and is written with a simplicity and straightforwardness that enhance its value.

To the U. S. Naval Institute and Colonel Carl Reichman, U. S. Army, Retired, are due a great deal of credit for the translation and for making available this excellent book on the war in Turkey.

Genghis Kahn

"GENGHIS KAHN," the Emperor of All Men, by Harold Lamb; printed by Robert M. McBride & Company, New York, 1927; 270 pages, with illustrations, bibliography and index; price $3.50.

"Seven hundred years ago," Harold Lamb tells us, "a man almost conquered the earth. He made himself master of half the known world, and inspired humankind with a fear that lasted for generations."

The mystery that has always surrounded the name of Genghis Kahn is unfolded and the story of his life is told in this most interesting narrative of one of the greatest warriors of all time. The mystery of Genghis Khan lies in the rise of this nomad, a hunter and herder of beasts, who outgeneraled the powers of three empires and who, never having seen a city and not knowing the use of writing, drew up a code of laws for fifty peoples.

The book compares Alexander of Macedon and Napoleon, both conquering geniuses, to the great Mongol. The author points out that Alexander's kingdom broke up on his death and that his son had to flee. Napoleon's empire fell about his ears, his Code was torn up and his son disinherited. Whereas—"So utterly had Genghis Kahn made himself master from Armenia to Korea, from Tibet to the Volga, that his son entered upon his heritage without protest, and his grandson, Kubilai Khan, still ruled half the world."

Born in the northern part of the Gobi desert, A. D. 1162, endurance was the first heritage of Genghis Khan, whose birth name was Temujin. At the time of his birth his father had been absent on a raid against a tribal enemy, Temujin. The enemy was made prisoner, and the father, returning, gave to his infant son the name of the captive foeman.

The picture of Genghis Khan's youth is not a pleasant one. The struggle against the hardships of the desert, the constant feuds and strife among men are omnipresent.

Rising to the khanship of his tribe after the death of his father, Genghis Khan ruled by force and cunning, ever alert to increase and strengthen his power. In 1206, council of tribes selected Temujin as master and gave him the title Genghis Kha Khan, Emperor of All Men. The Yassa, his code of laws, and the military organization of his Mongol veterans were the means he used to enforce his will and to hold in check the Turko-Mongol peoples of his empire.

Cathay and the walled cities were Genghis Khan's first important conquests. However, he did not settle

down in luxurious Cathay. Instead he returned to the barren pleasures of the Gobi that were his birthright. Here he set up his headquarters, Karakorum, and from here he ruled, with Ye Liu Chutsai, the sage of Cathay, as his minister of state and adviser.

The Mongol horde did not enjoy peace. It fell to quarreling within itself. To strengthen and hold together his new kingdom, Genghis Khan led his men on new conquests. He took a powerful army across Asia and half of Europe. China he had already conquered; now India and all of eastern Europe fell before the invading horde. His strategy was superb. His generals were of the best. His troops were intrepid and well trained. This well-disciplined army of invasion was responsive to every call of its leader. The devastation and suffering it caused is without equal in the annals of history. The best of what he captured Genghis Ghan kept; the remainder he destroyed.

At the end, with his forces rolling into Russia and central Europe, the great Khan fell ill and died while in the midst of a campaign against the Sung. His horde escorted his body to the Gobi, where he had struggled for life as a boy. No one knows the exact burial place.

"Like the Nomad he was, he died uncomplaining, leaving his sons the greatest of empires and the most destructive of armies, as if his possessions had been no more than tents and herds. This was in the year 1227."

The book is intensely interesting. It is well written, the style is delightful. The author has included a bibliography and an index. It is probably the best account yet written of this great conqueror, and the book should be of real value to the student of military history. At the same time it should appeal to the scholar because its origin is hidden in the dusts of antiquity. For the general reader it is a fascinating story of thrilling adventure.

Let's Go!

"Let's Go!" The Story of A. S. No. 2448602, by Louis Felix Ranlett, formerly Second Lieutenant of Infantry, 2d Division, A. E. F.; two hundred and ninety-one pages, with illustrations: the Houghton-Mifflin Company. Boston and New York; price $2.50.

A freshman at Harvard in the fall of 1917, Ranlett was ordered to the third Officers' Training School. After the close of the school, the author, then a corporal, was ordered overseas with the 308th Infantry in April, 1918.

The outstanding feature of the book is the vivid description of the author's experiences in the battle of Blanc Mont Ridge. Ranlett was cited for bravery in this battle and he also was wounded, which brought about his discharge some five months later.

"Let's Go!" is well written. It is an interesting narrative. The story is told as the author might have told it a day of two after the events took place. The sixteen illustrations, reproduced from the collections of U. S. officials drawings on exhibition in the National Museum, Washington, D. C., are well chosen and fit in well with the text.

Notes on the Infantry Association

New Policy

YOUR Executive Council believes that your Association should not only give every service to its members, but also that it should afford them an opportunity to save money wherever possible. It has, therefore, approved the following policy, which will go into effect on December 1, 1927, the beginning of our new fiscal year:

1. The Infantry Association will give to all of its *members* a discount of *five per cent* on all purchases made from or through it, except on subscriptions to periodicals, or when otherwise specifically stated; *provided* that remittance accompany the order or that bill be paid within thirty days from the date that it bears.

2. If and as the volume of business permits, the Association will increase this discount.

3. The Association solicits, from its members and others, orders for books, stationery, periodicals, printing and engraving, Christmas cards and all articles that it advertises. It also asks for the opportunity of serving its members by acting as agent for them in the purchase of any other merchandise, to their convenience and financial benefit.

Save Money

THIS is the last opportunity that we shall have this year to tell the readers of the JOURNAL and their friends how to save money on Christmas cards.

If your order for Christmas cards reaches us not later than October 20, you will get a ten per cent discount from the list prices. We offer this discount as an inducement to you to send in your order before the rush season. Orders at this time distribute the engraving load and avoid a peak in December, and make it possible for us to give you better work and service.

ORDER YOUR CHRISTMAS CARDS FROM US NOW AND SAVE MONEY.

ORDER YOUR CHRISTMAS CARDS FROM US AT ANY TIME AND GET BETTER VALUE FOR LESS MONEY THAN YOU CAN GET ELSEWHERE.

Books

"THE doughboys of the 15th Infantry, Tientsin, China, read during the last twelve months no less than seventeen thousand five hundred books—an average of nineteen books per man. While it may not appear such a stupendous task to read nineteen books in twelve months, it is, nevertheless, a notable average record when it is considered that during the same period a census among civilian library patrons throughout the United States showed that these individuals averaged only three and one-half books per person."—Recruiting News.

If other regiments read as much as

the 15th Infantry does, the whole Infantry must buy a great many books.

We are prepared to furnish any kind of books, and only ask the opportunity of quoting prices.

We also conduct a service that many infantry companies find convenient and satisfactory. On a standing order and for a fixed monthly price, we select and send to companies the number of good and appropriate current fiction books that the stipulated sum will buy. We make no extra charge for this service.

Tell us about your specific book wants and let us show you what we can do to fill them.

Reserve Officers' Examiner

THE 1927 edition of the Reserve Officers' Examiner is just coming off of the press.

The new promotion policy and regulations have made the 1926 edition to some extent obsolete. Although we have on hand a number of copies of this edition, we have gone ahead with a new one. We are taking the loss that this entails because we believe that we owe it to our members and customers to make available to them only the best and most up-to-date books that we can produce.

For the benefit of officers who are not familiar with the Reserve Officers' Examiner, we quote the following from the Introduction:

"This book is designed to place before Reserve officers, in convenient question and answer form, the material they require for preparation for the examination for promotion, and for the pursuit of the Army Correspondence Courses in the subjects contained herein.

"The subject matter is based upon the texts prescribed for the Army Correspondence Courses.

"The table on page 8 shows the subjects for each branch of the service in which officers are required to pass examinations for promotion.

"As a general text-book the Reserve Officer's Examiner fills a need in the service. An officer may turn to any page of the book and there find valuable and interesting information, which is readily available with the least expenditure of time and effort."

The Infantry Song Contest

THE approved report of the song contest committee became available for publication just as the INFANTRY JOURNAL was going to press.

The report states that, though many of the compositions were of high merit, the committee considers none of them entirely suitable as the Infantry Song.

The committee expects to submit a more promising plan for reopening the contest.

Please see important notice on page 445.

Investment Service for Army Officers

REALIZING that the investment requirements of Army men are different from those of civilians, New England Investment Trust, Inc., is offering a new service designed particularly for Army investors. The trust buys with its own funds one or two shares of stock in 80 leading American corporations, such as United States Steel, American Telephone, Pennsylvania Railroad, Standard Oil [illegible] Jersey and the like. In all, it [illegible] shares of stock in 80 companies. The stocks are all listed on the New York or Boston Stock Exchanges.

The trust deposits this block of stocks with the Liberty National Bank in New York, which holds them as Trustee. Against each block of stock so deposited the bank issues 1000 shares of a single security, known as Collateral Trustee Shares. Each Collateral Trustee Share represents an equal interest in the entire block of deposited stocks and 1000 Collateral Trustee Shares can be exchanged for a complete block of the deposited stocks at any time.

Dividends on the deposited stocks are first received by the Trustee bank which, in turn, distributes them twice a year to holders of Collateral Trustee Shares. All dividends received by the bank, including rights and extras, must be distributed in full, without deduction of any kind.

The return on Collateral Trustee Shares since 1925 has exceeded 7½ per cent. and in that time they have appreciated in value 36 per cent. The investment is unusually safe because of the diversification among 80 securities, and its income and profit possibilities are exceptional because the underlying securities are stocks rather than bonds. The trust securities are carefully supervised by experienced bankers at all times, a feature of great importance to Army men, who frequently are unable to maintain close personal supervision of their investments.

Collateral Trustee Shares are low in price and may be purchased on a monthly payment plan which calls for an initial payment of 20 per cent., with balance in 8 equal monthly installments. An account may be started with as little as $30 a month—first payment on 10 shares—and regular investing will steadily increase the buyer's equity in a security which represents 80 leading American corporations.

SAFETY of BONDS
PROFITS of STOCKS

Combined in Collateral Trustee Shares, a single investment in listed stocks of 80 leading American corporations.

Write for plan of regular investment, which can start with as little as $30 per month.

NEW ENGLAND INVESTMENT TRUST, INC.
85 Devonshire Street
Boston Massachusetts

Since 1925
Yield 7½%—Appreciation 36%

Election of Officers and Members Executive Council United States Infantry Association

Please indicate your vote on the attached ballot and send it to the Secretary, U. S. Infantry Association, 1115 17th St. N. W., Washington, D. C., so as to reach him not later than December 17,

Vote for:

1 for President.

1 for Vice-President.

7 for Additional Members of the Executive Council.

The Constitution of the Association provides:

Sec. 4, Art. VI—The election of officers shall take place at a regular annual meeting. The election shall be by ballot and a plurality of all votes cast shall elect.

Sec. 2, Art. VII—The elective officers of the Association shall be a President, a Vice-President, and seven members of the Executive Council. They shall hold office for two years or until their successors are elected.

Annual Meeting

The Annual Meeting of the United States Infantry Association will be held in the Infantry Building at 4.30 p. m., December 20, 1927. The election of all officers and members of the Executive Council will take place at this meeting. Members are urged to forward their ballots so as to reach the Secretary before this time.

BALLOT

My vote for officers and for members of the Executive Council, United States Infantry Association, is as follows:

FOR PRESIDENT

.....DeWitt, Colonel J. L.
.....Graham, Colonel James M.
.....Simonds, Brig. Gen. G. S.

FOR VICE-PRESIDENT

.....DeWitt, Colonel J. L.
.....Ford, Colonel S. H.
.....Graham, Colonel James M.
.....Lincoln, Colonel C. S.
.....Macnab, Colonel A. J., Jr.

ADDITIONAL MEMBERS EXECUTIVE COUNCIL

.....Maj. J. A.
.....Alfonte, Lieut. Col. Wm. A.
.....Allen, Capt. L. C.
.....Bonesteel, Maj. C. H.
.....Catron, Maj. T. B.
.....Chamberlin, Maj. S. J.
.....Dannemiller, Lieut. Col. A. C.
.....DeWitt, Col. J. L.
.....Drysdale, Maj. W. S.
.....Ford, Col. S. H.
.....Fredenall, Maj. L. R.
.....Ganoe, Maj. W. A.
.....Gasser, Lieut. Col. Lorenzo D.
.....Graham, Col. James M.
.....Grier, Lieut. Col. Harry S.
.....Hammond, Maj. T. W.
.....Lang, Maj. J. W.
.....Lincoln, Col. C. S.
.....Lynch, Lieut. Col. G. A.
.....McAdams, Lieut. Col. J. P.
.....Macnab, Col. A. J., Jr.
.....Magruder, Maj. B.
.....Marshall, Lieut. Col. G. C.
.....O'Brien, Maj. R. E.
.....Strayer, Lieut. Col. Thorne.
.....Van Schaick, Col. L. J.
.....Wilson, Maj. E. M.
.....Young, Capt. S. H.

Signed .....

.....

HERETOFORE, Corona has been considered wholly as an object of utility—merely a writing machine. Convenient, durable, trustworthy—yes, but not exactly ornamental.

Now, if you will, your Corona need no longer retain its coat of somber black. Choose from the new rainbow models the color that best harmonizes with your office, library table, or your private den. Smooth Duco finish, blending in with satiny nickel, texture panels, artistic lines—make the new Corona something to be proud of and to have in sight, instead of keeping locked up in in the carrying case.

To this newest attractiveness of color have been added mechanical refinements resulting in increased speed, lighter touch and smoother operation.

For the Army man, Corona has no equal.

L. C. SMITH & CORONA TYPEWRITERS, INC.

Factory and Executive Offices, Syracuse, N. Y.
Sales Offices and Representatives in all Large Cities.